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Railway Age

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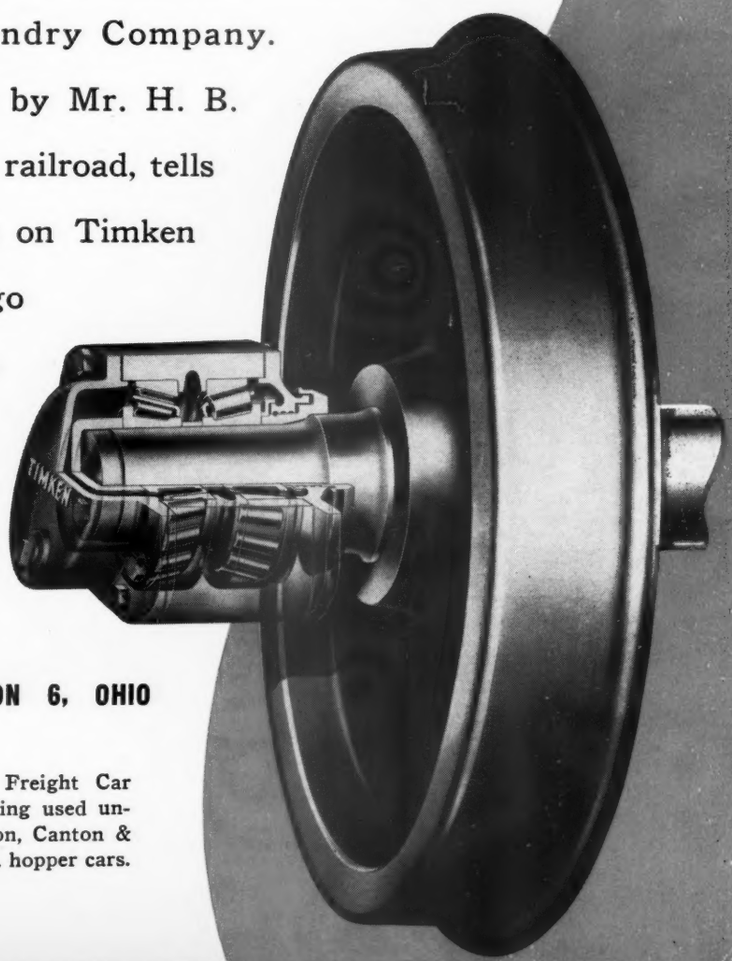
puts 25 new main line freight cars on
Timken Bearings

These are 70-ton capacity covered hopper type cars—the first of this type to be equipped with roller bearings. They are being built by the American Car & Foundry Company. The following statement by Mr. H. B. Stewart, Jr., President of the railroad, tells why these freight cars are going on Timken Roller Bearings. "About six years ago we decided to equip our new steam and Diesel-electric locomotives with Timken Bearings . . . and with them we have never had a set-out or hot box due to bearings."



Timken Bearing Freight Car Application as being used under the new Akron, Canton & Youngstown R. R. hopper cars.

THE TIMKEN ROLLER BEARING COMPANY, CANTON 6, OHIO

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RAILWAY ROLLER BEARINGS

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-but NEW TESTS show QUALITY advances

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The net result is to make the requirements even more stringent, to raise to even higher levels the performance of chilled car wheels. The test changes which have been made have had one purpose only: to better approximate the actual conditions of severe, long-term usage. The additional test provides an important and necessary extra check on maintenance of rotundity.

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Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 120, No. 16.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 120 April 20, 1946 No. 16

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 105 W. ADAMS STREET, CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING—CLEVELAND 13: TERMINAL TOWER—SEATTLE 1: 1033 HENRY BUILDING—SAN FRANCISCO 4: 300 MONTGOMERY STREET, ROOMS 805-806—LOS ANGELES 14: 530 WEST 6th STREET—DALLAS 4: 4518 ROLAND AVENUE.

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service.

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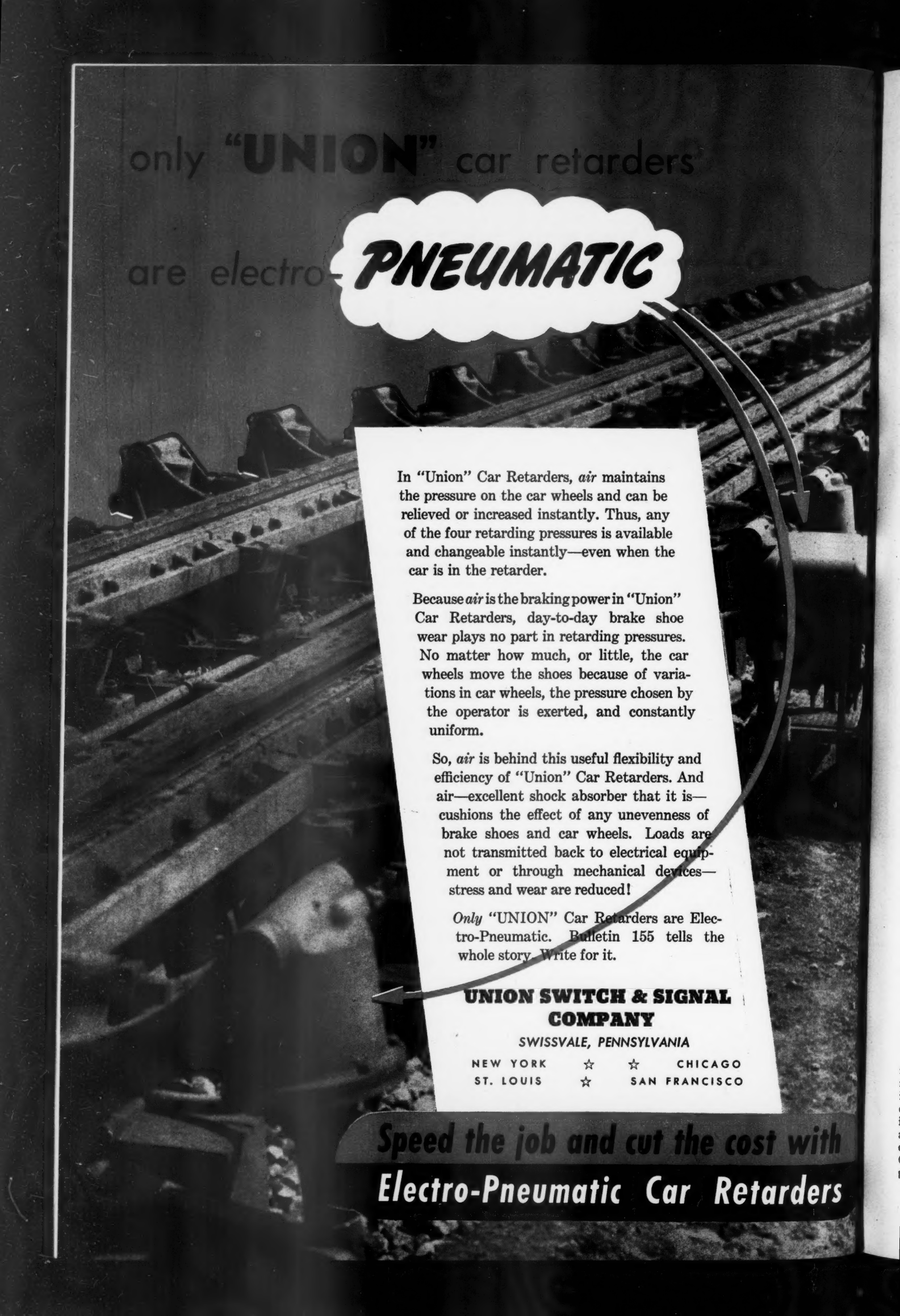
PRINTED IN U. S. A.



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The Week at a Glance

RATE INCREASE SOUGHT: Details appear in the news pages of the freight rate advances that the railroads have asked the Interstate Commerce Commission to approve, effective May 15, in advance of hearings and final disposition of the proceedings.

●

DELAY MEANS DEFICITS: What the railroads need most of all at this time is prompt action on their application for authority to advance freight rates. As the leading editorial this week emphasizes, losses resulting from delay cannot be made up. Higher material prices already are in effect and higher wage rates not only are in effect, but are retroactive to the beginning of the year. Higher rates cannot be applied retroactively, of course, but reparations can be made if the commission subsequently determines on rates lower than those proposed. While many of the railroads have relatively large liquid assets, accumulated during the war, these funds are needed for the rehabilitation and expansion of facilities which the prospective large peacetime traffic will require, and should not be dissipated while a decision as to the exact nature of the rate increase is being arrived at.

●

INFLATION IS HERE: Opposition to increased freight rates can be expected on the ground that they are inflationary. The editorial goes on to show that the increases are not themselves inflationary, but the conditions that have made the increases necessary are. There are means of counteracting inflation, but they are not painless, and for that reason they are not popular. The Administration has chosen deliberately to encourage higher wages, giving consumers more money to spend without doing anything effective to get more goods produced in proportion—in other words, it is acting to make inflation worse while talking about preventing it. The recent wage increase awarded railroad employees is part of this inflationary process. To avoid even more inflation, it will be necessary to attack its causes, rather than trying to disguise or prevent its effects. Meanwhile the railroads' net income is being wiped out, a condition that can be corrected, so long as inflation is not drastically curbed, only by adjusting rates proportionally.

●

A FINANCIAL PROBLEM: There are many leaders of powerful pressure groups who will oppose by every means available any measures that are necessary to enable the railroads to remain solvent and to make expenditures which will improve and enlarge their facilities and their capacity to perform the service that an expanding industry will continue to demand. The most obvious and most urgent protective measure the railroads can take at this time, in view of price increases affecting nearly every commodity they purchase and of wage increases that add up to staggering totals, already has been taken, namely, an application for authority to raise freight rates. Opposition to higher rates is to be expected from those persons whose true purpose is to promote their favorite brand of national socialism, because an impoverished and insolvent railroad system would not be able, under private ownership, to perform its proper functions in the national economy. As the editor of this paper pointed out in an address this week, reported herein, the construction and producing industries of the country are as much concerned with preserving the private enterprise system as the railroads are. Their attitude toward the railroads' need for increased revenues can affect the results of the measures undertaken to obtain them.

●

ANOTHER CENTENNIAL: Last week's issue carried a review of one railroad system's development over a period of one hundred years, and an article herein reports a similar milestone in the history of another road—the Lehigh Valley. Beginning as an outlet for Pennsylvania anthracite mines, this carrier has developed into a property with strategically-situated terminals on the Great Lakes and on tidewater, connected by a line with generally favorable grades which was intensively used during the recent war.

●

DYNAMIC BRAKING: Since 1942 the dynamic brake on Diesel-electric locomotives has been greatly improved in capacity, flexibility, and ease of operation, an editorial points out. While this device was originally developed for use in mountain braking, in which it has been conspicuously successful in conserving brake shoes and car wheels, as well as in eliminating delays, it has shown advantages in level country too. In such territory it is used successfully to reduce speed without stopping —for caution signals or when entering sidings, for example—and often without applying the air brakes, which not only saves wear and tear, but also does away with time losses required to recharge the brake system.

●

KIRK COMMENTS: Organized teamwork—with railroad men cooperating with each other, along with shippers and government agencies—made it possible for the western carriers to move much more freight during the war years than anyone had thought they could handle. Among the devices by which this was accomplished were the so-called "Kirk Orders." Their author has reviewed some of their effects in a talk abstracted in this issue. He sees in that achievement in teamwork a lesson which can be applied in the difficult future. Public policies that will assure the railroads' continued progress and prosperity must be supported. The greater efficiency and economy inherent in new machinery and new techniques must be realized to the utmost. Freight rates must be adjusted realistically, in the light of current wage rates and material costs. Wasteful "rule changes" must be prevented. And none of these things can be done very successfully unless there is more teamwork, more of the understanding cooperation between the carriers and their employees and their customers that made the war-time record possible.

A BOLD PROPOSAL: The House appropriations committee has made what is, for these days, a rather drastic recommendation, that is, that the federal agencies providing special aids to aviation ought to exact some payment therefor from the beneficiaries. As noted in the news pages, the administrators fear some "complications," and would prefer to postpone such a departure from current practice.

●

NORTHERN PORT: A port development that was of great importance in handling military freight during the war was carried on at Prince Rupert, B. C., without attracting much attention. An illustrated article in this issue describes its rail approaches and indicates how much the volume and variety of traffic handled there expanded when its advantageous location with respect to Alaska and Japan caught the eyes of staff men worried about congestion in the Puget Sound ports.

●

MACHINE-MADE MAN HOURS: An unusual opportunity to measure the effect, in terms of output per man-hour, of the mechanization of small rail-laying gangs developed last year on the Chicago & North Western, and its results are reported in an illustrated article herein. A gang of 18 to 22 men started in on a rail-renewal job without any power equipment; its maximum output was 4 lin. ft. of rail laid per man-hour. With a tie adzer and nut runner this output was more than doubled. The subsequent addition of a spike puller and spike driver resulted in a further increase, bringing the figure up to 14¼ lin. ft. of rail laid per man-hour.

●

WELDED BOILERS: The burden of proof rests on the railroads when it comes to convincing the Bureau of Locomotive Inspection and other government agencies that fusion welded boilers fully meet safety requirements. If proper evidence to that effect is presented in applications, with adequate drawings and specifications, the bureau will offer no objection to the use of welded boilers, says Director John M. Hall, whose recent discussion of this question at the Chattanooga A. S. M. E. meeting appears on page 816. Railroads are advised that they will be held completely responsible for the safety of boilers they put in service, whether or not they prepare the specifications, and that full compliance with all provisions of the A. S. M. E. code applicable to welded joints will be required.

●

HOPE FOR EQUITIES: The Senate interstate commerce committee has recommended prompt enactment of legislation which would make voluntary adjustment of railroad financial structures possible after section 77 reorganization proceedings have been started. Its report, summarized in the news pages this week, is a result of hearings at which junior security holders of bankrupt roads asked for better treatment than they were accorded under reorganization plans approved by the Interstate Commerce Commission.

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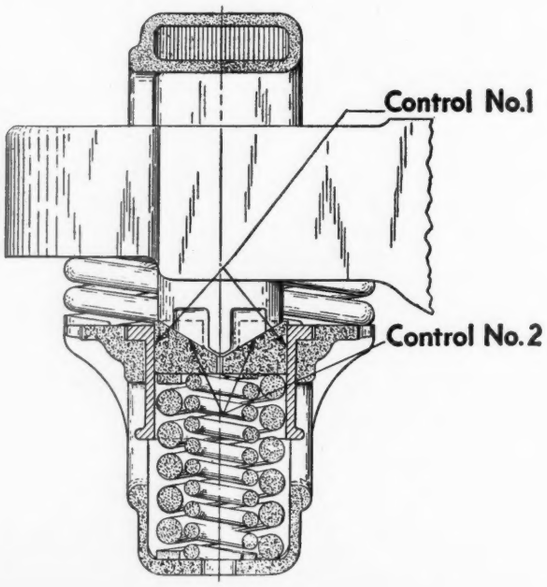

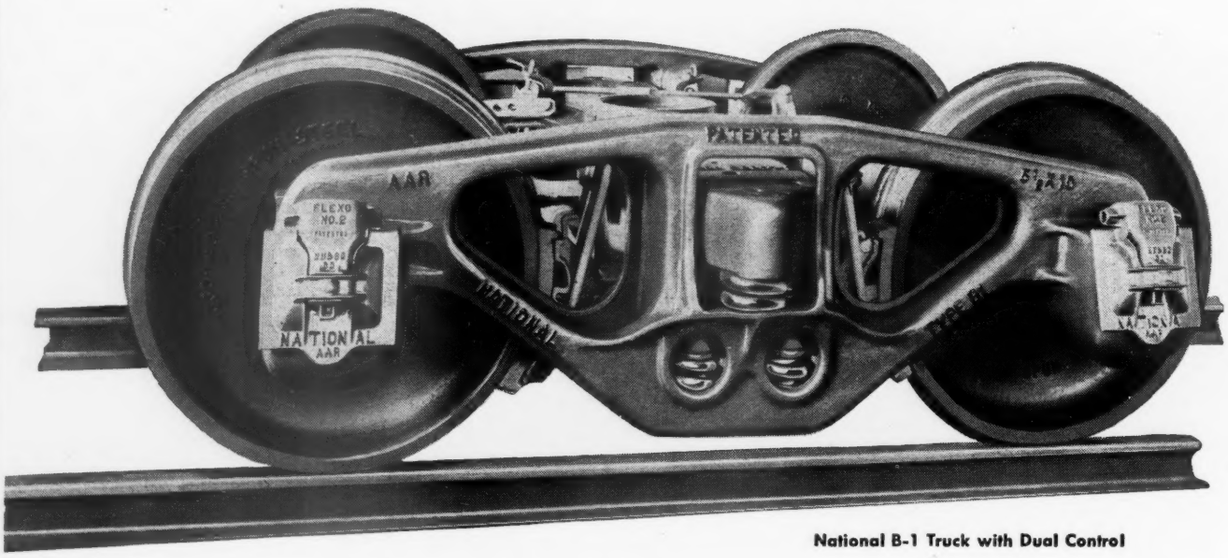

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RAILWAY AGE

Prompt Advances in Freight Rates Essential

The public interest imperatively demands prompt and favorable action by the Interstate Commerce Commission on the petition of the railways for an advance (with numerous exceptions) of 25 per cent in freight rates. The advance in wages of railway employees recently awarded is retroactive to January 1. It alone will wipe out three-fourths of the net operating income which, without an advance in wages, would have been earned in the first third of the year. And, if increases of prices already made or in immediate prospect had been in effect, little or no net operating income at all would have been earned in the first third of the year.

With this record behind them, the railways are amply justified in urging the Commission to let the advances in rates asked go into effect on May 15 (after the legally required notice of thirty days), so that they may have the benefit of them during the last two-thirds of the year, and to make subsequently such readjustments in the rates and reparation to shippers as may be shown to be warranted.

Because the advance in wages is retroactive, a large deficit after fixed charges and taxes has been incurred by the railroad industry as a whole in the first third of the year. It can pay this deficit from the large liquid assets which, by a very conservative policy in paying dividends, it accumulated during the war. But, in spite of the decline in freight traffic which has occurred, traffic is still almost 50 per cent larger than in 1941, and is proving larger than, under peace-time operating conditions and commercial practices, it is possible for the railways to handle with the presently available freight equipment and other facilities. Therefore, as little as practicable of the accumulated liquid assets should be used in paying deficits, in order that the bulk of them may be used in the rehabilitation and expansion of railway plant which plainly will be required to enable the railways to cope with an unprecedented peace-time traffic when the prospective wholly unprecedented peace-time volume of construction and production really get under way.

It Is Too Late to Prevent Inflation

No doubt it will be argued against a large advance in freight rates that it will be inflationary. But, plainly, it will be an *effect,* rather than a *cause,* of inflation. On the average wholesale prices have risen 34 per cent since 1940. The railways, by carrying on meantime with no increase in freight rates, excepting a small temporary one not now in effect, have contributed more than any other industry toward preventing inflation, and must have an advance in rates now because of inflation *that already has occurred* in the wages and prices that they must pay.

Everything that can be done to prevent further inflation should be done. But we already have inflation; and if we are to prevent more of it, we will have to quit trying merely to prevent its *effects,* and begin attacking its *causes.*

The causes of the inflation that already has occurred are, unfortunately, not understood by the public. At the end of the war in 1945 there was over three times as much currency in circulation as there was in 1939. Over the same period, bank loans and investments almost quadrupled and bank deposits more than doubled. From 1939 to 1945, the physical volume of industrial production approximately doubled, but much of the production was in war goods—not in commodities suitable for individual consumption.

Curing Inflation Calls for Courage

The real value of money is reckoned in the goods and services which will be proferred in exchange for it. With an enormous increase in the amount of money (plus increased bank deposits and government bonds, which, like money, are also exchangeable for goods)—and little or no increase at all in most of the goods which people really want—it follows inevitably that prices for goods and rates for services must rise, unless (1) production of goods is greatly increased and/or (2) the quantity of money in consumers' hands is greatly diminished.

Great increases in prices—which inevitably follow from such conditions in the relative supplies of money and goods as existed at the war's end, unless these conditions are quickly and resolutely corrected—are called "inflation," but are actually the effects of inflation. Practically everybody professes to dislike inflation, but the only genuine *means* of counteracting it are not popular. These means include: (1) cutting governmental expenditures to the bone (so government debt, and the volume of currency based on government debt, will decline); (2) continuing a high level of taxation (as a means of reducing government debt, and the volume of currency based on it), but giving tax relief wherever high taxes limit production; (3) permitting prices and rates to rise wherever such increases are required to provide an adequate incentive to greater production, while resisting by every legal means all price increases which merely add to the costs of production and are not needed to sustain or increase its volume.

Such is the cure for inflation—recognized by every honest and competent authority. Instead of courageously

instituting this cure, the Administration openly encouraged increases in wages, thereby moving to put more money into the pockets of consumers without, at the same time, arranging to get more goods produced to match this increase in consumers' supplies of money. In other words, the Administration, while decrying inflation, acted to make it worse—while it sent the clever Chester Bowles around the country making speeches about "holding the line." One of the early locomotives blew up, so tradition has it, because the engineer, annoyed by the noise from the safety valve, assigned a colored boy to sit on it, while he kept the fireman as busy as ever. Bowles is Engineer Truman's colored boy on the engine of inflation; and the Administration's policy favoring wage increases and continued federal spending—especially of the "public works" variety—is his fireman.

The increase of 16 cents per hour, awarded by arbitration to railway employees, is a part of the inflationary process being fostered by the Administration while it pretends to oppose it. The demands for still more advances in wages being prepared by the railway labor unions are, in effect, demands for still more inflation. It was not the railroads and other industries, but the Administration, that "planned it that way." And the railways, by seeking advances in rates, are merely trying to offset effects that inflation already has had on them.

Quid Minus *Pro Quo*

Congress, in recent legislation, has taken steps to curtail restrictive rules forced upon radio stations by Mr. Petrillo's musicians' union. Among other arrangements disapproved by Congress, it appears that there was one which provided that whenever records are played, an accomplished maestro, or at least one who is paid over $100 per week, must be in attendance in order to turn the music on and off.

Having for many years opposed "feather-bed" rules on the railways, the *Railway Age* is sympathetic with the troubles of the radio stations and is also keenly conscious of the cultural vacuum which would be created if any appreciable number of "soap operas" were taken off the air because of Mr. Petrillo's efforts to advance "labor's gains" in paid-for leisure. Still, in view of present conditions on the railroads, our sympathy for the radio stations is somewhat curtailed by thoughts of the relative plight of the railroad industry. For example, the demands actually filed by the enginemen's and firemen's union in the recent emergency fact-findings proceedings would, if granted, result in having a separate crew, most of them with nothing to do, on each unit of the four-unit Diesel-electric road freight locomotives that played such a prominent part in assisting war-time transportation.

In addition to the present demands, there are enough existing "feather-bed" rules to attract the attention of Congress if, as is indicated in the case of the radio stations, that body is really inquisitive concerning manpower wastes and uneconomic practices forced upon industry by labor leaders determined to get the last pound of flesh.

There was, for example, a decision rendered by the National Railroad Adjustment Board shortly before it ceased entirely to function, that is costing one railway $3 million, apart from serious delays to freight. Every railway has had hundreds of claims, almost entirely of the "feather-bedding" character, dumped back into its lap as a result of the recent decision of the Supreme Court in the E. J. & E. case, which railway labor leaders say renders it impossible to handle cases before the Adjustment Board—a body of which some of the decisions have been characterized by Professor Sumner N. Slichter, noted student of labor problems, as "among the strangest in the annals of industrial relations."

If Congress is really serious in its current interest in investigating restrictive make-work rules, it will find no more fertile field for study than the railway industry. The hampering restrictions placed on railway operation by the brothers are such as to make radio stations seem a comparatively free and untrammeled enterprise. Mr. Petrillo has got into trouble because his exploits were publicized, not because they introduced any particular novelty into the record of "make-work" exactions.

What is "Adequate"?

It will require something more potent than aspirin to alleviate the headache with which constantly increasing costs have afflicted railway maintenance officers. During the war years these officers did the best they could to hold the line against strong forces tending to inflate the costs of maintaining tracks and structures. Some of these forces were temporary, but others have shown no signs of vanishing, and are now to be reinforced by still higher labor costs. It will take a strong defense, based on offensive tactics, to keep the line intact.

Experience teaches that there are three general avenues along which attacks may be launched to control or reduce maintenance costs. One of these is greater mechanization; another is more efficient organization; and the third is more durable structures, requiring less attention to keep them in a desired condition. Because of the possibility of achieving better performance through improved relations with employees, this field constitutes a fourth line of approach which many consider of equal importance with the other three mentioned. That any sound strategy for controlling maintenance costs must be based on adequate attention to these fundamentals is well recognized; whether the strategy will work on individual roads will be determined by the meaning and emphasis attached to the word "adequate."

Discerning maintenance officers will recognize that, while notable progress has been made in promoting efficiency through mechanization, better gang organization and improved design and construction, much additional progress must be achieved if the line against higher costs is to be held; and, moreover, that this objective is not going to be reached if the attitude is one of "wait and see" while others do the pioneering. Such officers perceive that comfortable compromise with traditional thought and methods can result only in letting unit costs get out of hand; and that, no matter how efficiently an operation is performed today, there must still be opportunities for improvement. Only when all such oppor-

tunities have been thoroughly explored will it be possible to say that the problem has received "adequate" attention.

The experience of the Chicago & North Western in mechanizing a small rail-laying gang, described elsewhere in this issue, may be cited as an example of what can be accomplished. The opinion prevails in some quarters that it is not practicable or profitable to mechanize small gangs of this type. Yet here is an instance where the addition of four machines to the organization had the effect of increasing the man-hour output 3½ times, as compared with the performance when no machines were used. It is the character of thinking behind the mechanization of this gang that maintenance men as a group need to bring to bear on the problems now facing them.

Dynamic Brakes

The idea of relieving locomotive and car wheels of part of the braking load and dissipating the energy of train retardation by other means than friction is not a new one. It was probably first tried in this country on the electrified mountain grades of the Chicago, Milwaukee, St. Paul & Pacific in the states of Montana and Washington. In this case, true regenerative braking is provided, with electric locomotives designed to put power back into the line on descending grades, which assists in braking and also helps haul other trains up ascending grades.

With self-contained locomotives of either the Diesel- or turbo-electric types, this conservation of energy is not possible, since there is no overhead line available to receive excess power, nor is it practicable to feed the power into storage batteries and save it for subsequent use. Hence, the electric energy developed in the traction motors, which serve as generators in braking trains, is usually dissipated in air-cooled grids in the locomotive roof. This particular type of electric braking with self-contained motive power units is called "dynamic" to differentiate it from the "regenerative" braking previously mentioned.

Important advantages of dynamic braking more than offset the inefficiency which arises from the loss of the electric power generated. On mountain grades, especially such as those encountered on some western railroads, the problem of getting heavy trains, either passenger or freight, safely down hill with minimum delay and wear and tear to the equipment is not a small one. Train speeds on the grades have to be limited, and sometimes stops must be made to allow car wheels to cool off. Both wheel- and brake-shoe wear are greatly accelerated, which necessitates the changing of many wheels and renewing of brake shoes with attendant delays and expense.

Since it was first introduced in 1942, the dynamic brake on Diesel-electric locomotives has been greatly improved in capacity, flexibility and ease of operation and is proving a great help if not the total answer to the problem of mountain braking. This brake can now be used to exert a maximum braking effort of about 95,000 lb. at 15 miles an hour; it will not fall below 40,000 lb. over a range of speeds between 7½ to 40 miles an hour. It is cut in as necessary to control train speeds, the air brakes being used only for supplementary braking when trains are exceptionally heavy or grades are extraordinarily steep, or for making service or emergency stops.

By the use of dynamic brakes on locomotives under average conditions of load and grade, trains can be kept below the limiting speed and coast down the grade with only light air-brake applications, if any. Proportionately large reductions in wheel and brake equipment wear are being made. On the western lines of one large road, for example, which is now an extensive user of Diesel freight power equipped with dynamic brakes, it is no longer necessary to change the brake shoes on passenger cars after each round trip. Similarly the changing out of 2,200 pairs of freight car wheels a month has been cut to 300 pairs, thanks largely to the reduction in the amount of friction braking.

While dynamic brakes were originally conceived for use in mountain braking, they have shown somewhat unexpected advantages on relatively level-grade roads. In this case it is the possibility of slowing trains down for caution signals, entering sidings, or any other cause, without stopping and often without applying the air brakes, which saves wear and tear on equipment and time required to recharge the brakes. On one midwestern carrier a number of Diesel freight locomotives have been in service up to 180,000 miles with as many as 13 of the original wheels still in service. Other factors, of course, have a bearing on locomotive wheel-mileage between turnings, but dynamic brakes are credited with no small degree of this important increase over average performance.

Socializing to Escape Socialism

In an address to the American Retail Federation, Chester Bowles is quoted as posing the following question:

"Can capitalism survive in a major nation in the midst of a rapidly expanding Socialistic world?"

Let us consider that question and the implications that capitalism is threatened by some force from without. What are the facts? One fact is that the capitalist world is feeding the countries where Socialism prevails. It will have to continue to do so for some time. If it did not the Socialist countries would be prostrate. And it is this system which is so interested in an ideology that it cannot organize to give people the necessities of life which Mr. Bowles implies is going to squeeze the capitalistic countries and force them to do something they do not want to do.

What does Mr. Bowles suppose would happen if United States and Canada should drop immigration bars and if the inhabitants of the Socialist countries were free to come to the American continent? He knows that in a very short time those countries would be all but depopulated. What sense does it make to go about implying that some Socialist bogey is going to creep in and possess us?

And how does Mr. Bowles propose to meet this external Socialist threat? He proposes to do it by socializing the United States. He says that is not so, but every policy he proposes—control of prices, control of wages, control of housing—is a step in that direction.

It is as though Mr. Bowles, looking upon a pet poodle which cannot even live unless its master feeds it, should shout, "Look, a raging hungry lion threatens us. To save ourselves we must jump off yon cliff."

—From the Wall Street Journal.

1945 Expenditures Near Peak

Purchases of materials, supplies and fuel totaled $1,572,404,000—Capital disbursements for road, equipment and structures were greatest since 1930

PURCHASES of materials, supplies and fuel, excluding new locomotives and cars, by Class I railroads of the United States in 1945 totaled $1,572,404,000 and came within 2.4 per cent of equalling the 1944 total, which was greater than for any year since 1923, according to a recent announcement by J. J. Pelley, president of the Association of American Railroads. Preliminary estimates prepared by *Railway Age* from special reports submitted by Class I roads, and published in the Annual Statistical and Outlook number on January 5, 1946, were within 1.2 per cent of actual aggregate of expenditures as reported by the A. A. R.

Many Critical Shortages

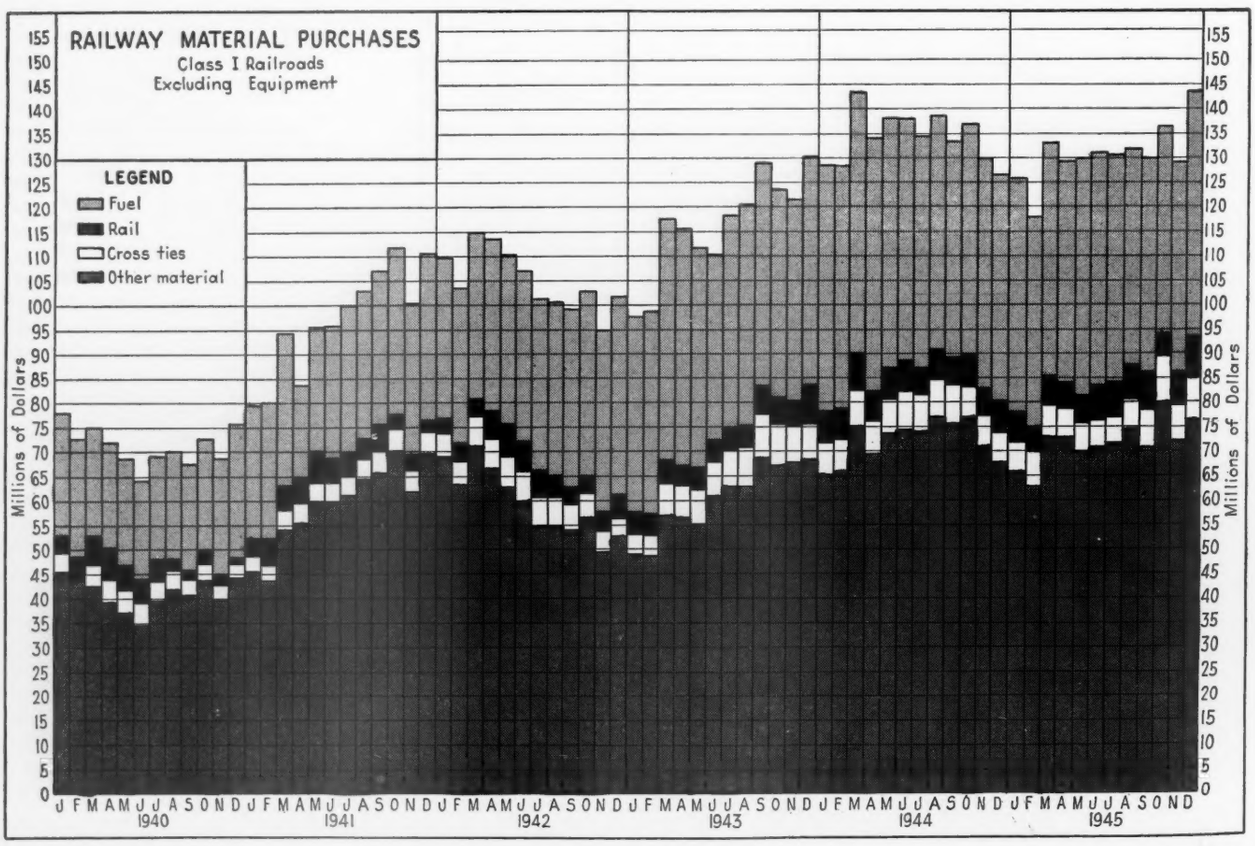
Total gross capital expenditures by Class I railroads in 1945 for new equipment, for improvements to equipment in service, for additions and improvements to roadway and structures were greater than for any year since 1930 and amounted to $562,980,000 or $2,868,000 more than for 1944.

Purchase of materials and supplies from manufacturers continued in large volume during the year and aggregated $1,017,249,000; which was only $7,348,000 less than the 1944 peak, which in turn was greater than for any year in the last two decades.

Last year's purchases again reflected critical shortages in many categories, particularly with respect to forest products and iron and steel items. Despite increases in unit costs, expenditures for crossties dropped 9 per cent, while disbursements for switch and bridge ties tobogganed 49 per cent and lumber also registered a substantial drop.

For bituminous coal only, purchases totaled $396,171,000, a decrease of $33,326,000 compared with the preceding year, while anthracite purchases totaled $3,905,000, a decrease of $220,000 compared with 1944. Purchases of fuel oil in 1945 amounted to $142,656,000, compared with $139,598,000 in the preceding year. For gasoline, there was an expenditure of $6,265,000 in the past year, while for all other fuels, including coke, wood and fuel for illumination, expenditures amounted to $6,158,000.

The A. A. R. compilation of purchases represents the delivered cost of materials received from commercial firms and includes materials obtained by Class I railways to build new locomotives and cars in railway shops, but not the value of new equipment purchased from commercial builders. A measure of expenditures for new equipment is presented later in this article in an analysis of gross capital expenditures. All figures are restricted to the railways of this country and exclude all purchases by war agencies or military forces for building, rebuilding and operating railways


RAILWAY MATERIAL PURCHASES
Class I Railroads
Excluding Equipment
LEGEND
Fuel
Rail
Cross ties
Other material
Millions of Dollars
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1940
1941
1942
1943
1944
1945

in this and other countries. Moreover, these purchase figures *do not include* the cost of equipment, materials and machinery purchased by contractors for railway construction and neither do they include the expenditures railways make for heat, light, power and other utilities.

Iron and Steel Products

Purchases of iron and steel products as a whole continued relatively high, being only one per cent or $5,732,000 less than 1944's $526,608,000; however, 1945 purchases in this group topped those of 1943 by 27 per cent, were 20 per cent greater than in 1942 and exceed 1941 purchases in this category by 14 per cent. Unlike 1944, when every item in this class showed a substantial increase, 1945 expenditures for locomotive and car springs (helical and elliptical) dropped almost 27 per cent below 1944; hardware sagged approximately 17 per cent and locomotive and car castings, beams, couplers, frames and car roofs were off almost 16 per cent. Telegraph, telephone and radio material showed an increase of 66 per cent, automotive equipment and supplies 21 per cent and iron bridges, turntables and structural steel climbed nearly 54 per cent above the 1944 level.

Class I roads spent $55,709,000 for locomotive and car castings, beams, couplers, frames and car roofs compared with $66,114,000; or approximately 16 per cent less than in the preceding year. Expenditures for wheels, axles and tires amounted to $44,794,000 compared with 1944's $48,791,000, a drop of 8 per cent. A decrease of 14 per cent was registered in expenditures for bar iron and steel, spring steel, tool steel, unfabricated roller shapes, wire belting and chain, boiler, firebox and tank steel; and sheet iron, when purchases in this group dropped to $30,960,000 or $5,084,000 below the preceding year.

Although the railways spent $27,069,000 for air brake material in 1945, purchases in this category were approximately 8 per cent below 1944's total of $29,248,000. Expenditures for car forgings, iron and steel and fabricated or shaped steel for passenger and freight cars totaled $18,861,000; a decrease of 7 per cent from the 1944 high.

For standard and special mechanical appliances for locomotives the railways spent $18,535,000 last year compared with $21,206,000 in 1944 and $18,478,000 in 1943. Purchase of small machine tools, power tools and hand tools, such as drills, taps, reamers, dies and chasers, slipped approximately 7 per cent below last year's purchases and amounted to $12,903,000 as compared with $13,821,000 for 1944, but they topped the 1943 total of $10,265,000 in this classification by approximately 26 per cent.

Expenditures for bolts, nuts, washers, rivets, lag screws, pins and studs amounted to $11,471,000; a drop of almost 15 per cent below last year's total of $13,452,000 and approximated the purchases for these items in 1943.

Class I roads in 1945 spent $7,103,000 or 8 per cent less for flues and tubes for locomotives and stationary boilers; $4,299,000 was spent for helical and ellip-

CLASSIFIED PURCHASES OF FUEL, MATERIAL AND SUPPLIES (EQUIPMENT EXCLUDED)*

Class I Railways—Years 1945 and 1944

Item	1945	1944	Per Cent Change
FUEL:			
Bituminous coal	$396,171,000	$429,497,000	- 7.8
Anthracite coal	3,905,000	4,125,000	- 5.4
Fuel oil	142,656,000	139,598,000	+ 2.1
Gasoline	6,265,000	6,142,000	+ 2.0
All other (coke, wood, fuel for illumination)	6,158,000	6,470,000	- 4.8
Total Fuel	$555,155,000	$585,832,000	- 5.2
FOREST PRODUCTS:			
Crossties (treated & untreated)	$77,389,000	$85,202,000	- 9.2
Switch and bridge ties (treated & untreated)	6,689,000	13,174,000	-49.2
Lumber, including timber (bridge & building, equipment, rough & finished lumber)	44,921,000	52,288,000	-14.1
Other forest products	7,963,000	8,293,000	- 4.0
Total Forest Products	$136,962,000	$158,957,000	-13.8
IRON AND STEEL PRODUCTS:			
Steel rail (new & second hand except scrap)	$77,038,000	$75,763,000	+ 1.7
Wheels, axles & tires	44,794,000	48,791,000	- 8.2
Frogs, switches & crossings & parts of same	21,653,000	26,114,000	-17.1
Track fastenings, track bolts, spikes, etc.	62,420,000	55,229,000	+13.0
Iron bridges, turntables & struct. steel, all kinds	6,673,000	4,348,000	+53.5
Bar iron & steel, spring steel, tool steel, unfabricated rolled shapes, wire netting & chain except light coil, boiler, firebox, tank & sheet iron & steel, all kinds	30,960,000	36,044,000	-14.1
Forgings & pressed steel parts for locomotives	5,902,000	4,933,000	+19.6
Car forgings, iron & steel and fabricated or shaped steel, for passenger & freight cars	18,861,000	20,344,000	- 7.3
Flues & tubes for locos. & stationary boilers	7,103,000	7,732,000	- 8.1
Interlocking & signal material	28,880,000	23,147,000	+24.8
Telegraph, telephone & radio material	7,695,000	4,636,000	+66.0
Bolts, nuts, washers, rivets, lag screws, pins & studs	11,471,000	13,452,000	-14.7
Springs, helical & elliptical, all kinds for locomotives & cars	4,299,000	5,869,000	-26.8
Locomotive & car castings, beams, couplers, frames & car roofs	55,709,000	66,114,000	-15.7
Track & roadway tools all kinds, miscellaneous track material & wire fencing. Motor, hand, push & velocipede cars & parts for same	12,435,000	11,599,000	+ 7.2
Machinery & repair parts, including all power driven shop machinery	12,747,000	8,842,000	+44.2
Machinery, boilers, repair parts & all other iron & steel products	19,722,000	17,009,000	+16.0
Pipe, iron & steel & fittings, all kinds	7,940,000	8,726,000	- 9.0
Hardware, all kinds, including nails	5,808,000	6,962,000	-16.6
Hand & small machine tools, such as drills, taps, reamers, dies, chasers, including air tools & parts	12,903,000	13,821,000	- 6.6
Air brake material	27,069,000	29,248,000	- 7.5
Standard & spec'l mechanical appliances for locos.	18,535,000	21,206,000	-12.6
Automotive equipment & supplies	20,259,000	16,679,000	+21.5
Total Iron and Steel Products	$520,876,000	$526,608,000	- 1.1
MISCELLANEOUS:			
Cement	$3,565,000	$3,613,000	- 1.3
Lubricating oils & grease, illuminating oils, boiler compound, waste	30,674,000	30,913,000	- .08
Non-ferrous metal & non-ferrous metal products	37,425,000	35,853,000	+ 4.3
Ballast	22,287,000	20,582,000	+ 8.3
All electrical materials	28,304,000	27,338,000	+ 3.5
Stationery & printing	22,555,000	22,314,000	+ 1.1
Commissary supplies for dining cars, camps & restaurants	60,476,000	59,373,000	+ 1.9
Rubber & leather goods	8,148,000	7,899,000	+ 3.2
Glass, drugs, chemical, including chemicals for timber treatment, painters' supplies	40,932,000	40,100,000	+ 2.1
Arch brick for locomotives	4,150,000	3,966,000	+ 4.6
Passenger car trimmings	8,465,000	8,443,000	+ .02
Locomotive, train & station supplies	25,385,000	24,782,000	+ 2.4
All other miscellaneous purchases	67,045,000	53,956,000	+24.3
Total Miscellaneous Purchases	$359,411,000	$339,132,000	+ 6.0
Grand Total	$1,572,404,000	$1,610,529,000	- 2.4

* Source: Reports of the carriers to the Association of American Railroads.

GROSS EXPENDITURES FOR ADDITIONS AND BETTERMENTS TO RAILWAY PROPERTY*

Class I Railways in the United States—Years 1921-1945

Year	Total Equipment (000)	Total roadway & structures (000)	Grand Total (000)
1921	$319,874	$237,161	$557,035
1922	245,509	183,764	429,273
1923	681,724	377,425	1,059,149
1924	493,609	381,135	874,744
1925	338,114	410,077	748,191
1926	371,922	513,164	885,086
1927	288,701	482,851	771,552
1928	224,301	452,364	676,665
1929	321,306	532,415	853,721
1930	328,269	544,339	872,608
1931	73,105	288,807	361,912
1932	36,371	130,823	167,194
1933	15,454	88,493	103,947
1934	92,005	120,707	212,712
1935	79,335	108,967	188,302
1936	159,104	139,887	298,991
1937	322,877	186,916	509,793
1938	115,408	111,529	226,937
1939	133,388	128,641	262,029
1940	271,906	157,241	429,147
1941	367,568	175,453	543,021
1942	349,374	185,523	534,897
1943	255,981	198,301	454,282
1944	328,231	231,881	560,112
1945	314,779	248,201	562,980

* As compiled by Association of American Railroads.

ANNUAL PURCHASES OF MATERIALS AND SUPPLIES (EXCLUDING EQUIPMENT)
1923-1945†
Class I Railroads

Year	Fuel (000)	Forest Products (000)	Iron & Steel Products (000)	Miscellaneous (000)	Total (000)	Total less Fuel (000)
1923	$617,800	$232,511	$464,955	$423,437	$1,738,703	$1,120,903
1924	471,656	180,872	365,610	324,917	1,343,055	871,399
1925	459,465	170,305	419,255	343,018	1,392,043	932,578
1926	473,354	186,291	507,302	392,085	1,559,032	1,085,678
1927	438,821	175,729	432,604	348,774	1,395,928	957,107
1928	384,608	160,794	397,544	328,395	1,271,341	886,733
1929	364,392	157,771	437,840	369,752	1,329,535	965,143
1930*	306,500	134,600	329,700	167,700	1,038,500	732,000
1931*	224,200	75,500	220,000	175,300	695,000	470,800
1932*	178,250	52,200	100,550	114,000	445,000	266,750
1933	180,526	42,442	120,446	122,436	465,850	285,324
1934	217,294	64,271	172,094	146,565	600,224	382,930
1935	232,723	57,367	156,914	146,021	593,025	360,302
1936	272,270	76,683	273,753	180,715	803,421	531,151
1937	294,293	104,707	359,409	207,974	966,383	672,090
1938	243,783	56,968	152,176	130,355	583,282	339,499
1939	257,273	69,971	273,968	168,102	769,314	512,041
1940	273,556	82,185	315,048	183,674	854,463	580,907
1941	349,765	103,771	456,147	251,591	1,161,274	811,509
1942	426,335	115,227	433,089	285,160	1,259,811	833,476
1943	527,296	150,255	410,803	305,927	1,394,281	866,985
1944	585,832	158,957	526,608	339,132	1,610,529	1,024,697
1945	555,155	136,962	520,876	359,411	1,572,404	1,017,249

† As compiled by Association of American Railroads.
* Railway Age estimates.

tical springs of all kinds for locomotives and cars, while purchases of forgings and pressed steel parts for locomotives increased almost 20 per cent and amounted to $5,902,000.

More Shop Machinery Bought

Expenditures for power-driven shop machinery continued a pronounced upward trend; the $12,747,000 spent for this purpose in 1945 topped the $8,842,000 expenditures in 1944 by 44 per cent and was 191 per cent greater than the $4,383,000 spent for shop machines in 1943. Additional expenditures for machinery, boilers, repair parts and all other iron and steel products increased approximately 16 per cent and amounted to $19,722,000 compared with $17,009,000 for 1944 and $11,384,000 for 1943.

Purchases of lubricants, boiler compounds and waste amounted to $30,674,000; a slight drop from 1944's $30,913,000. Expenditures for arch brick for locomotives indicated an increase of almost 5 per cent and amounted to $4,150,000 compared with $3,996,000 during 1944 and $3,970,000 for 1943. Commissary supplies showed a slight increase (2 per cent) over 1944 and amounted to $60,476,000; however, they topped 1943 purchases by a full 7 per cent. Locomotive, train and station supplies amounted to $25,385,000, an increase of 2 per cent over 1944 and exceeded 1943 purchases in this classification by 13 per cent.

Purchases of steel rails showed an increase of approximately two per cent in 1945 when they amounted to $77,038,000; track fastenings increased by 13 per cent and amounted to $62,420,000; while expenditures for switches, frogs and crossings amounted to $21,653,000, a drop of 17 per cent compared with 1944.

For track and roadway tools of all kinds, motor cars and trailers, miscellaneous track material and wire fencing, the railways spent $12,435,000 in 1945, or 7 per cent more than in the previous year. Expenditures for ballast increased 8 per cent and totaled $22,287,000 compared with $20,582,000 for 1944 and $19,509,000 for 1943.

More Signaling Installed

In 1945 the railways received $28,880,000 of interlocking and signal material, approximately 25 per cent more than in the previous year, and their purchases of telegraph, telephone and radio material amounted to $7,695,000 or an increase of 66 per cent. In addition, the roads acquired $28,304,000 of electrical materials, or almost 4 per cent more than in 1944.

Since the foregoing purchase figures do not include any expenditures for machinery, apparatus, materials and supplies that were purchased for the railways by contractors engaged in making additions and improvements to Class I railway property, the following data, as compiled by the A. A. R., indicate the extent of this work in 1945 and the value of the materials involved. Gross capital expenditures for roadway and structures last year totaled $248,201,000; an increase of $16,320,000 or 7 per cent over 1944, 25 per cent over 1943; 34 per cent more than in 1942; 41 per cent greater than in 1941 and topping 1940 expenditures by approximately 58 per cent.

GROSS CAPITAL EXPENDITURES (In Thousands) ON RAILWAY PROPERTY—1941 to 1945*
Class I Railways—United States

Item	1945	1944	1943	1942	1941
EQUIPMENT:					
Locomotives	$127,934	$178,017	$142,070	$113,834	$80,607
Freight-train cars	138,114	134,533	97,890	201,112	245,713
Passenger-train cars	30,843	1,921	5,828	24,075	29,544
Other equipment	17,888	13,760	10,193	10,353	11,704
Total Equipment	$314,779	$328,231	$255,981	$349,374	$367,568
ROADWAY AND STRUCTURES:					
†Additional main track	$15,566	$20,616	$18,493	$6,235	$3,781
Yards and sidings	31,733	36,666	39,254	43,330	25,374
Heavier rail	37,579	35,720	32,227	33,100	36,108
Additional ballast	6,343	6,997	6,229	5,487	5,635
Shops and engine houses** (including machinery and tools)	38,243	28,131	15,615	13,623	13,920
Station and office buildings and other station facilities	14,549	13,433	10,320	10,623	11,251
Bridges, trestles and culverts	24,364	25,088	20,673	21,471	19,419
Signals & interlockers, including telephone & telegraph lines, automatic train control, etc.	30,039	22,091	16,041	16,261	13,439
All other improvements	49,785	43,139	39,449	35,393	46,526
Total Roadway and Structures	$248,201	$231,881	$198,301	$185,523	$175,453
Grand Total	$562,980	$560,112	$454,282	$534,897	$543,021

* Compiled by the Bureau of Railway Economics, Association of American Railroads.
† Includes rail and tie fastenings and other track material.

Capital Expenditures Higher

As a measure of expenditures for new equipment purchased from manufacturers, for equipment built in railway shops and for improvements to equipment in service, the A. A. R. announced recently that gross capital expenditures made by Class I railways in 1945 amounted to $314,779,000; a drop of $13,452,000 or 4 per cent compared with 1944; however, last year's expenditures were almost 23 per cent greater than similar expenditures in 1943, but 10 per cent below the 1942 total. Of the 1945 expenditures, approximately 40 per cent went for locomotives; 44 per cent for freight-train cars; 10 per cent was for passenger-train cars and the remainder was spent for other equipment.

Capital expenditures for locomotives in 1945 totaled $127,934,000; a decrease of 28 per cent from the $178,017,000 spent for that purpose in 1944, and compared with $142,070,000 in 1943; $113,834,000 in 1942; $80,607,000 in 1941; $54,351,000 in 1940; $42,807,000 in 1939 and $208,966,000 in 1923.

(Continued on page 813)

What Machines Did for Small Rail Gang

Comparison of performance before and after mechanization reveals that output per man-hour was multiplied 3½ times

THE possibilities in mechanizing small rail-laying gangs, long held in some quarters as unsuited to mechanization, have been demonstrated by the performance of a rail gang of 18 to 22 men on the Chicago & North Western. The experience of this gang is revealing because, through a rather unusual combination of circumstances applying to a particular rail-renewal job carried out in 1945, it first worked for a time without the aid of any power equipment, after which, in successive stages, four power machines were added; namely, a tie adzer, a nut runner, a spike puller and a spike driver.

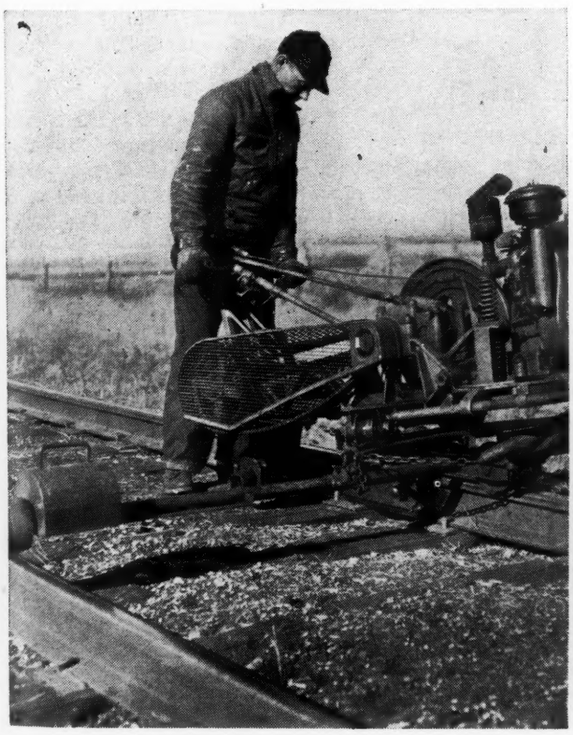
Comparative figures of the performance of this gang show a phenomenal increase in output per man-hour following the addition of the various units of equipment. For instance, during the period when all the operations were performed manually, the maximum output of the gang, based on a single day's operations, amounted to 4 lin. ft. of rail laid per man-hour actually spent on constructive work. When the adzer and nut runner were added to the organization the maximum amount of rail laid for any day increased sharply to 8.62 lin. ft. per man-hour, or more than double the previous output. When all four of the machines had been placed in use the output increased further to a maximum of 14.25 lin. ft. of rail laid per man-hour, or more than 3½ times the amount laid when no machines were used.

The foregoing figures cover all the operations involved in actually laying the rail, from the removal of the bolts to the piling of the released material, excluding only the time lost in getting to and from the job and in closing the track for trains. It is also important to emphasize the fact that the primary purpose of this article is to show the extent to which the performance of a gang can be enhanced with the aid of power machines, and not necessarily to present an outstanding or ideal example of mechanization. This point is made particularly in view of the fact that, as explained later, the circumstances were such that it was not feasible to equip the gang with a rail crane. Ordinarily, all rail-laying gangs on the C. & N. W. are fully mechanized, the major types of power equipment supplied including cranes, spike pullers, adzers, and bolt tighteners.

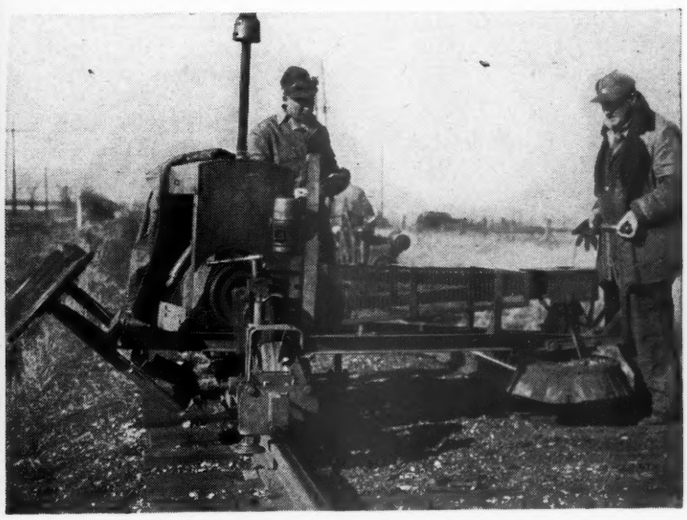
The particular rail-laying operation under consideration took place on what is known as the Freeport line, a single-track branch extending from West Chicago, Ill., to Freeport, 91 miles. The rail on 10.8 miles of this line was scheduled for renewal in 1945, but because of the labor shortage the amount renewed amounted only to 2½ track miles. It is the work involved in relaying this rail that is described in this article.

In the section of track where the rail was renewed the existing construction consisted of 90-lb. rerolled rail in 30-ft. lengths, carried on 18 ties per panel, fully-plated with single-shoulder tie plates. The ballast is pit-run gravel. In the renewal operation the existing rail was replaced with 90-lb. 33-ft. relayer rails from the main line, the lengths of which had been reduced to 31 ft. by cropping 12 in. from each end. This rail was laid with new four-hole angle bars on new larger single-shoulder tie plates, and was single spiked on each side. The existing rail was not anchored, but in the renewal work the new rail was anchored with eight anti-creepers to each rail, equally divided to prevent movement in both directions.

The work of renewing the rail first got under way in March, 1945, when it was decided to relay a sufficient amount in one location to obtain a carload of old rail urgently needed for emergency use on another division. Under ordinary circumstances the smallest rail-laying organization used on this road consists of a gang of about 40 men, equipped with a crane, a spike puller, an adzer and a power wrench. However, because



The first two machines placed in the hands of the gang were the power track wrench (left) and the tie adzer (right)



The spike driving machine (above) was the final power unit to be added to the organization

This mechanical spike puller (left) was the third power unit to be made available to the gang.

of the labor shortage, this job had to be done with a gang of only 18 men, which was formed by bunching five section gangs. Further, since all available power equipment used in rail-laying work was otherwise assigned at the time, and because the urgent need for the released rail did not permit waiting until a crane and other machines could be made available, it was decided to proceed with the work without the aid of power equipment.

In the initial rail-laying operation (and later when the power machines were brought into use) the rail on one side of the track was laid at a time and the work was done under traffic. Both before and after the machines were added the gang worked 10 hr. daily.

Output—No Machines

Doing the work entirely by hand, the gang started laying rail on March 22 and continued for four days, during which time it laid a total of 3,300 lin. ft. of rail. One of the best days from an over-all performance standpoint was March 24. Of the 180 man-hours worked on that day, 140 man-hours were spent laying rail, 14 man-hours were spent cutting in for two trains, and 26 man-hours were consumed in traveling to and from the job. A total of 494 lin. ft. of rail was laid, which was equivalent to 4 ft. per man-hour actually spent laying rail.

After the 3,300 ft. of rail had been renewed it was decided to defer further work until the gang could have the use of power machines. In October a power adzer and a power wrench were made available, and the work got under way again on the eleventh of that month, using the same five section gangs, totaling 19 men, including two machine operators. Because of the small size of the gang it was not considered economical to assign a crane to it, although before starting the rail-laying work the use of a rail crane was obtained for a sufficient length of time to unload and distribute the rail to be laid.

Output—Two Machines

The rail-laying work was carried on for five days with the aid of the power adzer and the power wrench, during which the gang laid a total of 5,796 lin. ft. of rail. A day of good performance during this period was October 13, when, working a total of 190 man-hours, the gang laid 1,240 lin. ft. of rail. The distribution of time on this day was as follows: 144 man-hours laying rail; 12 man-hours cutting in for two trains; and 34 man-hours consumed in traveling to and from the job. Thus, the unit output of the gang amounted to 8.62 ft. of rail laid per man-hour actually worked.

October 16 was the last day that the gang laid rail using only the adzing and bolting machines. Work was not resumed until November 7, when the two power machines already in the hands of the gang were augmented by a third, namely, a mechanical spike puller. However, this set-up prevailed for only one day and on the following day (November 8) a mechanical spike-driving machine was made available to the gang, in addition to the three other units already in hand. The power spike driver used on this job was the pilot model of a new machine that has been developed by the Nordberg Manufacturing Company. Briefly, this machine consists of a full-revolving frame, mounted on a carriage by means of which it is rolled along on the rails from one spiking position to another. The revolving frame is a balanced beam containing, at one end, a revolving mechanical hammer, and, at the other, a 6-hp., 4-cycle, single-cylinder, air-cooled gasoline engine which drives the hammer by means of three V-belts. The blows of the revolving hammer are delivered to the spike through an anvil, the lower end of which engages the top of the spike.

Weighing 28 lb., the revolving hammer rotates at a speed of 1,100 r.p.m. and strikes blows of 4,000 lb. The spike hammer drives one spike at a time, but through the swing of its frame it can be moved from one side of the rail to the other to permit the driving of spikes on both sides. For use with the spike driver a special spike holder has been developed, by means of which the spikes are placed and held in position for driving. Two of these spike holders are used with each spike-driving machine. The unit is operated by a crew of three men, including an operator and two laborers for handling the spike holders.

While the spike driving machine was in use on this job its performance was observed carefully. After the crew operating the machine had become experienced in its use, the best record achieved was the spiking of one rail (18 ties or 36 spikes) in 1 min. 30 sec. On the day during which the peak performance was achieved with the spike-driving machine the average elapsed time for spiking each rail was 1 min. 52

sec. The ties in the territory where the spike-driving machine was used were divided about equally between hard and soft wood. The experience with the spike driver was that it could be used all day without a change of operators or spike setters and that it was capable of driving as many spikes as could be driven by 12 men using spike mauls.

With Four Machines

During the period when rail was laid with the help of the four machines, the gang was composed of six section gangs, totaling 22 men, including three machine operators. This organization laid rail for nine days, during which a total of 15,536 lin. ft. of rail was renewed. The best performance during this period was achieved on November 14, when 2,480 lin. ft. of rail was laid. The 220 man-hours worked on this day were distributed as follows: 174 man-hours laying rail; 11 man-hours cutting in for one train, and 35 man-hours traveling to and from the job. Thus, the average output while actually laying rail was 14.25 lin. ft. per man-hour worked.

That the performance of the gang on November 14 was not greatly in excess of that achieved during other days of this period is indicated by the fact that on November 19 it laid 13.75 lin. ft. of rail per man-hour actually engaged in constructive activity. Again, on November 15, the average amount of rail laid was 12 lin. ft. per man-hour.

In comparing the production figures for this gang when using power equipment with the output when the work was done manually, it is important to bear in mind the fact that, because of the limited size of the gang, the full potentialities of the machines were not realized. Obviously, if the gang had been of such size as to permit the machines to be kept in operation a greater percentage of the time, the performance would have been even more striking.

The rail-laying work described in this article was carried out under the general direction of E. C. Vandenburgh, then engineer maintenance of the Chicago & North Western System and now chief engineer, and of P. V. Thelander, division engineer of the Galena division, both of Chicago, and was under the direct supervision of A. Netzel, roadmaster at West Chicago.

* * *

1945 Expenditures Near Peak

(Continued from page 810)

The year 1945 saw an increase of almost 3 per cent in capital expenditures for freight-train cars and amounted to $138,114,000 compared with $134,533,000 in 1944; $97,890,000 in 1943; $201,112,000 in 1942; $245,713,000 in 1941; $189,629,000 in 1940 and $66,779,000 in 1939.

The most spectacular increase registered during the year was in the expenditure of $30,843,000 for passenger-train cars. This was 1,506 per cent greater than the $1,921,000 spent for this purpose in 1944; 429 per cent more than 1943; 28 per cent higher than 1942; and exceeded 1941 expenditures by 4 per cent.

More than $91,000,000 was spent for additions to and the improvement of main tracks and sidings during 1945, almost $9,000,000 less than similar expenditures in 1944. Capital expenditures for additional main tracks totaled $15,566,000; or 25 per cent less than in 1944; 16 per cent less than the 1943 total of $18,493,000; almost three times the amount spent for that purpose in 1942; more than four times the amount spent in 1941; and almost five times the amount spent in 1940.

Shops and Engine Houses

Expenditures for the erection of new and the modernization of existing shops and engine houses amounted to $38,243,000, an increase of almost 36 per cent over 1944, and more than double similar expenditures for the years 1943, 1942 and 1941.

During 1945 the railways spent $24,364,000 for new and the improvement of existing bridges, trestles and culverts, a decrease of almost 3 per cent from the $25,088,000 expended for this purpose last year; however, the 1945 amount exceeded the 1943 expenditure by 18 per cent, topped 1942 by 13 per cent, and was 25 per cent greater than the 1941 total of $19,419,000.

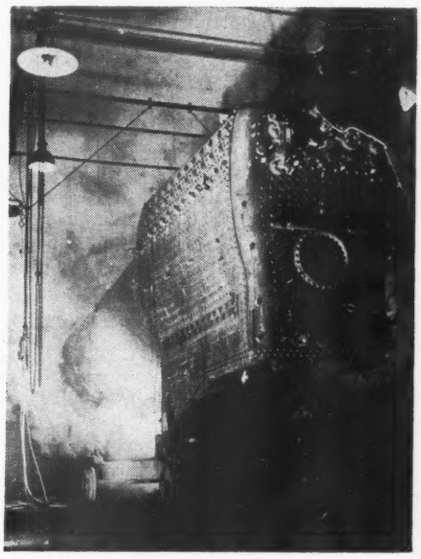
Capital expenditures for signals, interlockers, telephone and telegraph lines gained 36 per cent in 1945 and totaled $30,039,000 compared with $22,091,000 in 1944; $16,041,000 in 1943; $16,261,000 in 1942; $13,439,000 in 1941; and $10,275,000 during 1940.

Expenditures for improvements to station and office facilities also increased 8 per cent last year and amounted to $14,549,000; they were 41 per cent more than in 1943; 37 per cent greater than the 1942 total and topped those of 1941 by 29 per cent.

GROSS CAPITAL EXPENDITURES (IN THOUSANDS) ON RAILWAY PROPERTY—1945†
Class I Railways in the United States

Item	Unexpended authorizations brought over from 1944 A	Additional authorizations during year 1945 B	Total amount authorized including carry-over from 1944 C = A + B	Amount expended during year 1945 D	Carry-over of unexpended authorizations to 1946 E = C − D
EQUIPMENT:					
Locomotives	$77,193	$122,567	$199,760	$127,934	$71,826
Freight-train cars	66,107	172,897	239,004	138,114	100,890
Passenger-train cars	24,957	58,898	83,855	30,843	53,012
Other equipment	9,803	16,532	26,335	17,888	8,447
Total equipment	$178,060	$370,894	$548,954	$314,779	$234,175
ROADWAY AND STRUCTURES:					
Additional main track*	$9,387	$13,449	$22,836	$15,566	$7,270
Yards and sidings	16,268	39,620	55,888	31,733	24,155
Heavier rail	14,725	48,231	62,956	37,579	25,377
Additional ballast	1,727	6,734	8,461	6,343	2,118
Shops and engine houses (including machinery and tools)	29,207	40,751	69,958	38,243	31,715
Station and office buildings and other station facilities	9,236	26,981	36,217	14,549	21,668
Bridges, trestles and culverts	23,306	31,470	54,776	24,364	30,412
Signals & interlockers, telephone & telegraph lines, automatic train control, etc.	26,026	28,028	54,054	30,030	24,015
All other improvements	40,467	50,516	00,983	49,785	50,108
Total roadway & structures	$170,340	$294,780	$465,129	$248,201	$216,928
Grand Total	$348,409	$665,674	$1,014,083	$562,980	$451,103

† As compiled by Association of American Railroads.
* Additional track includes rail and tie fastenings and other track material.



British Combine Photo

After a 24 hour steam test at 285 lbs. per square inch, the boiler and fire-box assembly of one of the G. W. R.'s new "1000 Class" locomotives blows off steam.

What the Railways are Facing Today

Net operating income of $1 billion, necessary for adequate railroad service under private operation, will be wiped out unless wage and price rises are offset by higher rates

By SAMUEL O. DUNN

Editor, Railway Age; Chairman, Simmons-Boardman Publishing Corporation

THE post-war period to which we looked forward so long and longingly has been here now for eight months. Probably it is not what anybody expected.

The problems of war were difficult, but we solved them. There were no problems of war more difficult than those presented to our shippers and railroads, and the co-operative spirit, the tireless work, the ability and patriotism devoted by all shippers and railroad men to the triumphant solution of our war-time transportation problem are recorded in the annals of a grateful nation.

The problems of peace, including those of shippers and railroads, are proving no less difficult, and hardly less important. If they are to be equally well solved, they will have to be faced and attacked by both shippers and railroads with the same intelligent and mutual understanding, the same energy and the same spirit of co-operation.

Predictions were freely made that termination of the war would be speedily followed by a great decline of employment, production and traffic—perhaps to the pre-war level. Nothing resembling this has occurred. We have had long and important strikes. We have had government policies tending to demoralize and retard construction and production. But employment, production and traffic have declined nowhere near to the pre-war level.

Much More Traffic

Railway freight traffic in ton-miles in the first two months of 1946 was about 15 per cent smaller than in 1945, but 36 per cent greater than in 1929 and 48 per cent larger than in 1941. Carloadings indicate that in March and April it has been relatively larger. How large would traffic have been if construction and production had not been hindered by abnormal and, let us hope, temporary causes?

There is nothing in the record to indicate that traffic will decline to anywhere near the pre-war level. The huge purchasing power accumulated by the people and business during the war, on the one side, and the huge accumulation of shortages of everything, on the other side, are creating an effective demand for a very much greater than pre-war volume of construction, production and transportation.

There are reasons understood by every student of transportation why it is difficult, or even impossible, with any given amount of equipment and other railway facilities, to handle as large a volume of freight traffic under the conditions of peace as under the conditions of war. We have been seeing that illustrated ever since V-J day. Although traffic has declined, there have been no marked increases in total freight car surpluses or declines in car shortages. Shortages have been shown in every report issued since July, 1943. They have been larger in the first third of 1946 than they were in the first third of 1944.

Colonel Johnson, director of Defense Transportation, has called attention to the decline in efficiency with which cars are being maintained and used, has urged the railways immediately to order—and government authorities and carbuilders to afford them opportunity to acquire—150,000 new freight cars, and has urged better co-operation meantime by shippers and railroads.

On April 11, L. M. Betts, manager of the Railroad Relations Section, Car Service Division, Association of American Railroads, made a significant statement to the Atlantic States Shippers Advisory Board. He said:

"In the light of heavy demands for all kinds of cars to meet impending peacetime production, railroads have on order or in the process of being ordered in excess of 30,000 box cars and over 60,000 cars of all types." He added that, under recommendations of the A. A. R., consideration is being given to the ordering of a considerable additional number that is expected to produce a total of 125,000 to 150,000.

Mr. Betts continued: "The number of cars that can be obtained is problematical. The continued shortage of lumber and the extremely tight situation as to all kinds of steel parts, together with continued labor uncertainties, militate against the securing of full productive capacity of the car builders. It can be stated unqualifiedly, however, that the railroads propose to provide sufficient cars to protect the traffic offered them to the full extent of their ability."

Meantime, shippers and railroads are confronted with a problem which, in the interest of both and of the public, must, if practicable, be solved before any large number of freight cars can be acquired. It is plain that the demands of traffic in the first third of this year would have been larger, and consequently the transportation situation more serious, if influences restricting construction and production had not prevailed.

Highest Efficiency Essential

Therefore, it seems sure that when these retarding influences are reduced, there will be an increase in the demand for transportation. After the strike in the coal mines is settled, for example, there will be a great increase in the demand for the transportation of coal partly to remedy the shortage of it that will exist. It seems clear, therefore, that throughout the rest of this year the utmost co-operation by shippers and railroads to increase efficiency in the use of cars will be needed.

The number of bad order cars increased from 53,000, or 2.7 per cent of the total number, in January, 1945, to 74,000, or 4 per cent, in January, 1946. Average miles per car per day declined from 48 in January, 1944, to 44.4 in 1945 and to less than 41 in 1946. Tons per loaded car declined from 33 in January, 1944, to 32.2 in 1945 and to 32 in 1946. Consequently, ton-miles per car day declined from 1,028 in January, 1944, to 974 in 1945 and to 864 in 1946. This decline of 16 per cent in ton-miles per car day between January, 1944, and January, 1946, was equivalent to a decline of about 300,000 in the total number of freight cars.

C. J. Goodyear, president of the National Association of Shippers Advisory Boards, on April 8, sent a letter to the general chairmen of the shippers boards in which he said:

"With the reconversion of industry to peace-time production and the passing of the wave of strikes which has pervaded American industry, the demand

This article is the substance of an address presented at a joint luncheon of the Midwest Shippers Advisory Board and the Traffic Club of Chicago on April 18.

for commodities of whatever nature will bring about a flow of traffic which will continue to increase for some time to come. In order to provide cars for this increased traffic something more than increased railroad efficiency is going to be needed. Our members should be cautioned to continue to release cars as soon as conditions will permit in order that the supply will hold up and that the necessity for further restrictions from Washington may be avoided."

Let us now look at the transportation situation from a different direction. Net operating income (after taxes) of $129 million earned by the railways in January and February was at a rate of about $1,050 million a year—a not unsatisfactory showing. But since then arbitration boards have awarded general advances in the wages of railway employees. On the assumption of some reduction of employment, the railways have estimated that these advances in wages, including pay-roll taxes, will cost $620 million annually. On the assumption of no reduction of employment, the Bureau of Transport Economics of the Interstate Commerce Commission has estimated that the wage advances will cost almost $660 million annually, which additional pay-roll taxes would increase to $696 million annually.

Increases in other operating expenses already made or in immediate prospect must also be considered. Wages are about 56½ per cent of operating expenses; cost of materials, supplies and fuel used in operation, about 30 per cent. The price of steel, the most important material entering into railway equipment, materials and supplies, already has been increased. The price of fuel, in view of the present demands and strike of the United Mine Workers, undoubtedly will soon be substantially increased. Increases in operating expenses other than wages doubtless will be more than $350 million annually.

Cost of Retroactive Increase

Thus, the total increase in operating expenses promises—or threatens—to exceed net operating income at the annual rate of some $1.050 million at which it was earned in the first two months of 1946. Furthermore, the increases in wages and pay-roll taxes amounting on different estimates to $51 million to $58 million a month are retroactive to January 1. Hence, they alone will wipe out more than three-fourths of the net operating income reported as having been earned in the first two months of the year.

The facts—which I have given as accurately as the information available to date seems to make practicable—indicate that, on the one hand, the railroads are confronted with traffic demanding large expenditures for the rehabilitation and expansion of their properties. They indicate that, on the other hand, the railroads are faced with a financial problem which, if not speedily solved, would throw most of them into bankruptcy and render it impossible for them under private ownership to carry out the program of rehabilitation and expansion which is demanded by the traffic available and in prospect.

What attitude should be assumed by the construction and producing industries of the country toward this railroad situation? Let us give some thought to the background of it. It is unnecessary to remind those composing this audience that we are in the midst of a great struggle between those who are striving to replace our private enterprise economy with national socialism, and those who are striving to preserve private enterprise in all branches of our economy. Now, the railroads are just as much a part of our private enterprise economy as any other industry. They are, in fact, one of the most important and vitally essential of the industries composing that economy.

Many leaders of powerful pressure groups will oppose doing what may be necessary to enable the railroads to remain solvent, and to contribute, as an important part of private enterprise, their share toward the greatly expanded construction, production and employment that we all desire. Whatever explanations these persons may offer, we shall know that their true purpose in opposing the adoption of means necessary to enabling the railroads to earn adequate net earnings will be the promotion of national socialism.

What, then, should be the attitude of those who desire fully to preserve our American system of private enterprise?

Whether they are to remain under private ownership or to go into government ownership, the railways will have to be rehabilitated and expanded in order to provide service of the character and in the volume demanded by expanding construction, production and commerce. In other words, business and the people will have to pay in one way or another, in rates, or taxes, or both, the cost of providing good and adequate railroad service, if it is to be provided.

How, then, can we best make sure that such railway service will in future be provided with the maximum practicable efficiency and the minimum practicable cost? Those of us who are old enough or informed enough to recall what occurred under government operation during World War I, and who know what occurred under private operation during World War II, can have little doubt or hesitation in answering that question. The present railroad situation resembles in some respects that with which we were confronted just 26 years ago in 1920; but it is widely different in other respects. The railroads had then just been returned to private operation after 26 months of government operation. They were then as now confronted with greatly increased expenses. The Railroad Labor Board in May, 1920, granted advances in wages comparable with those just awarded by arbitration boards.

There was, however, an important factor in the situation that then existed with which we are not confronted now. Before that advance in wages was made in 1920, the railroads had been incurring large deficits under government operation, and were still incurring them under private operation. The government, to save them from bankruptcy on their return to private operation, had to extend its guarantees of net earnings for six months under private operation—from March 1, 1920, to September 1. And to stop the deficits, as well as to cover large advances in wages and prices made in 1920, the Interstate Commerce Commission found it necessary to grant advances in freight rates ranging from a minimum of 25 per cent in some territories to a maximum of 40 per cent in eastern territory. The advance in rates made under government operation in 1918-1919, and after the restoration of private operation in 1920, made the average revenue per ton per mile of the railways 31½ per cent higher in 1921 than it was twenty-four years later in 1945.

No Deficits to Wipe Out

In view of that experience, our shippers may well be glad that we retained private operation during World War II, and, in consequence, do not have to face now the prospect of advances in rates required to remedy huge deficits resulting from the squandering of money under government operation, as well as to cover current and prospective increases in railway operating expenses. There will be no argument between shippers and railroad men regarding the desirability from the standpoint of the interest of shippers and the public of doing all that may be reasonably necessary to insure continuance of railway private ownership and successful private management.

I do not intend here to try to say how much of an advance in freight rates, as a whole, or in the rates on different kinds of traffic should be made. But I do venture to call attention to two important and, as I believe, pertinent facts. One of these facts is that the average revenue per ton per mile of the railways in 1945 was less than 1½ per cent larger than in 1940. The other is, that the average wholesale price of all commodities is now 34 per cent higher than in 1940, and, because of recent changes in wages and prices, will soon show a further substantial increase.

The situation in which the railways

find themselves is exactly like that in which all other important industries recently have found themselves. The government promoted large advances in wages, and advanced the novel theory that the industries in which they were made should not advance their prices, because when they got large enough volumes of business they could make sufficient profits to bear the higher wages without advances in prices. But I have observed that mighty few industries readily accepted this novelty in economic philosophy and planning. It was, of course, not based upon any facts of economic history or human experience.

The railways are facing the same kind of situation as other industries, but with the important exception that within the last five years there has been no general advance in freight rates, while there has been a general increase of more than one-third in prices of commodities.

I do not regard the future of the railways with any more apprehension than that of other industries. We are all in the same boat. We are all being threatened with submergence by the tide of socialistic policies that is rolling so high. I believe that private enterprise in the railroad and other industries will be preserved, and that policies will be adopted which will enable the railways to do relatively as well as other industries.

Of one thing I am sure. This is, that if private enterprise in the railroad industry is not preserved and the railroads do not do well, then private enterprise will not be preserved in other industries. We are all now in the same boat; and we will all either stay afloat in it together or we will all sink together.

Fusion-Welded Locomotive Boilers

Bureau of Locomotive Inspection, Interstate Commerce Commission, clarifies its position and sets forth procedure to be followed in applying for consent for the use of the fusion-welding process *

By JOHN M. HALL †

THE purpose of the Bureau of Locomotive Inspection, Interstate Commerce Commission, is to promote the safety of employees and travelers upon railroads. The interest of the bureau in the matter of boiler construction, whether riveted or fusion welded, is therefore wholly that of safety.

No property loss or personal injury or death has occurred in many years because of failures of riveted joints in locomotive boiler shells, some of which have been in service for periods of time exceeding the average life range of human beings. Therefore, it is not apparent that safety would be increased by the use of fusion welded joints in these boiler shells. Consequently our part in the acceptance or rejection of applications for consent to the use of welded boilers for locomotives that come within the jurisdiction of the Locomotive Inspection Act is to obtain, so far as possible, reasonable assurance that welded boilers constructed for use on locomotives will comply with the terms of the Act, which, in brief, are that no part of any locomotive shall present unnecessary peril to life or limb. Because of well-known reasons which need not here be discussed, this assurance with respect to welded boilers was not possible prior to the general use of the American Society of Mechanical Engineers' welding codes, particularly that part of the Power Boiler Code which has to do with the construction of boiler drums and shells by welding and to the favorable experience of users of these boilers and various authorities charged with the enforcement of safety rules.

Evidence of Safety Essential

Welded locomotive boilers will not just come to the railroads without any effort on their part. It is necessary under the terms of the Locomotive Inspection Act that adequate safety be built into all boilers used on locomotives. If we have proper evidence through the filing of applications, accompanied by drawings and specifications, for consent for use by any railroad or railroads desiring to use welded boilers that the required degree of safety will be provided, there will be no objection on our part to such use.

The first application for consent for use of a welded locomotive boiler that conformed to the procedure required by the Locomotive Inspection Act for changes in the rules to authorize this method of construction, together with a specification which after some adjustments complied with the then recognized code for fusion welding of boiler shells, was filed by the Delaware & Hudson. A subsequent application, with specification, was received from this railroad and consent for use of this boiler was given but war work interfered with construction at that time. After hostilities ceased this application, together with a specification revised to include some changes in the art that had occurred in the meantime, was reinstated and consent for use of the boiler was given. It is understood that this boiler is now under construction.

Applications from two other railroads were received and, after some adjustments in the specifications to have these boilers conform in general to successful constructions used in other fields so that reasonable assurance of continuous integrity was provided, consent was given for use of these boilers.

I. C. C. Position Clarified

An application from another railroad, covering several boilers, was received, but because of vagueness or lack of clarity in some of the items in the specification and other matters it was necessary to defer the giving of our consent. This railroad, in common with others when informal inquiries as to our position in the matter of use of welded boilers were made, was advised to the effect that we were not averse to use of fusion-welded boilers by any railroad provided such boilers are safe within the intent of the Act; that the provisions of the Act are such as to make it mandatory that any boilers to be put into service shall be known to be as safe as those of conventional construction now in general use; that the critical construction features of the proposed boilers should not vary materially from current and practically standard constructions of welded boil-

* Written discussion of fusion-welded boilers presented at the session of the Railroad Division, The American Society of Mechanical Engineers, on April 2, 1946, at the society's Spring meeting, Read House, Chattanooga, Tenn.

† Director, Bureau of Locomotive Inspection, Interstate Commerce Commission, Washington, D. C., and member, A. S. M. E.

ers, and the construction features should have a background of successful use in steam boilers operating within the jurisdiction of a duly constituted steam-boiler authority. The railroad was further advised that we would give consideration to renewal of its application if the specification and drawings are revised to provide assurance that the proposed boilers would conform to the foregoing.

It should be understood by all railroads contemplating use of welded boilers that the specification, no matter by whom prepared, submitted by them to the bureau, along with their application for consent for use of such boilers, is necessarily accepted as the railroad's specification. If the contemplated boiler is put into service the railroad is wholly responsible for the safety thereof. This feature seems to have been overlooked in some instances; however, the Act and the rules promulgated thereunder are specific in the requirement that the railroad company will be held responsible for the safety of locomotive boilers used or permitted to be used on its line and there is no provision that would permit transfer of any of this responsibility.

Application Procedure

The procedure to be followed by any railroad that desires to use a welded locomotive boiler or boilers is to file an application for consent for use accompanied by drawings or prints of the particular boiler or boilers involved, showing the design and details of the proposed construction and the forms and dimensions of shell joints, and a specification showing the practices proposed to be followed in the application, examination, testing, stress relieving the tests of the completed structure, and the material to be used.

All the A. S. M. E. code provisions applicable to welded joints in steam-boiler drums or shells and tests and inspections required by this code should be incorporated in the specification. Our insistence on full compliance with all the applicable provisions of the A. S. M. E. code in the matter of welding in the construction of steam boilers is predicated on the fact that this is the only code covering such welding that has been accepted by practically all public authorities.

To avoid later inquiries in the matter of welding in or on the boiler shell that is not to be radiographed and stress relieved at the time of construction, such as attachment of flexible staybolt sleeves or caps, and the joining of the back head to the door sheet at the fire-door hole, the specification should contain an item to the effect that application of fusion welding in construction to parts and at locations not specifically referred to in the specification, and application of fusion welding in making repairs to any part of the boiler subsequent to the final stress relief by the builder will conform to established practices in the making of repairs to locomotive boilers of conventional construction.

Inclusion in the specification or drawings of changes in the well recognized requirements for construction and testing of welded boilers, such as may in some instances be desired to facilitate construction; omission of the requirement that only qualified welders shall be employed on the work; short-cutting or curtailing any of the existing generally recognized requirements which have stood the test of time and use; or the inclusion of designs that have in instances proved of doubtful value, or of untried designs of parts or forms of joints, any of which would be liable to reduce the degree of safety now prevalent, cannot consistently be agreed to. Changes of these kinds will necessarily have to pass through a trial period in other steam boiler service of sufficient duration to definitely determine their prospective continuous integrity.

It should be further noted that *none* of the railroad shops, many of which are equipped to build riveted boilers, are properly equipped to perform all the operations required on welded boilers, operations such as radiographing the welded joints and stress relieving the structure.

* * *

Hyster Builds New Model Lift Truck

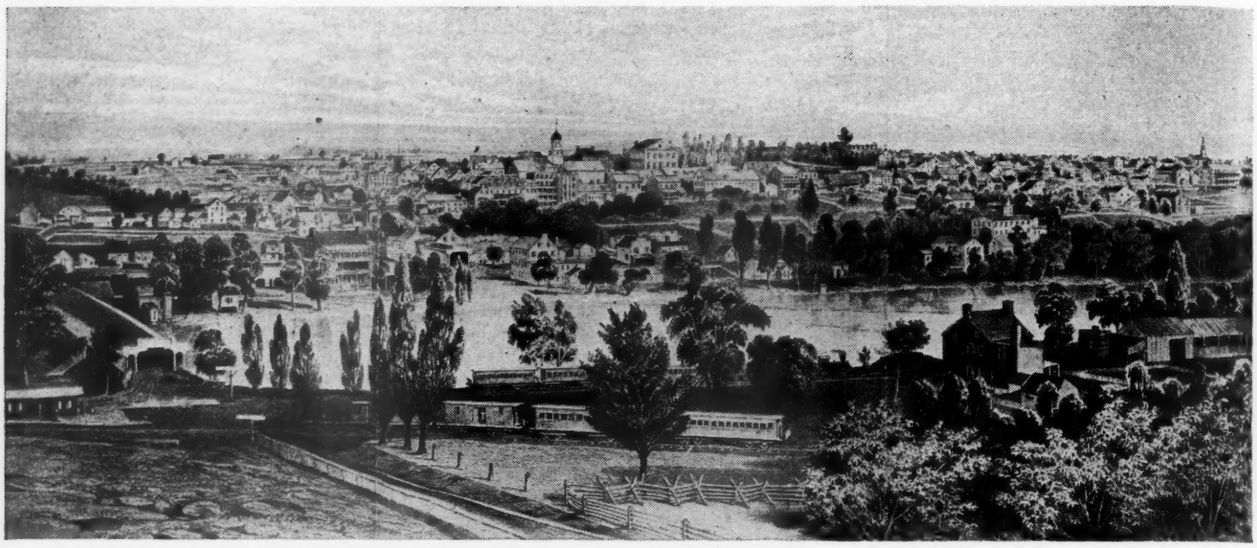
The Hyster Company, Portland, Ore., has made an addition to its line of industrial lift trucks—the "Hyster 40"; a three-wheel pneumatic tired truck, designed to handle loads up to 4,000 lb. It is powered by a Wisconsin heavy-duty air-cooled, four-cylinder V-type motor; which, along with the clutch, transmission, differential and brakes, is compactly arranged in an oil-tight, dirt-proof unit. The gasoline motor is used for propulsion only, as all hoisting and tilting is accomplished hydraulically.

This new model Hyster has a powerful hydraulic lifting and tilting mechanism with only one working unit, which is easily accessible for servicing. Moving channels and carriages are roller supported, eliminating greasy, sliding channel friction surfaces, and the roller guide construction provides free rolling hoist parts without binding or sticking. The tilting mechanism is based at the counterweight at the rear of the truck and leads directly to the top of the hoisting mechanism, where tilting effort is at a minimum and no heavy prying strains are applied to the one-piece steel frame or body. This arrangement provides control and steadiness during the tilting operation, as well as a built-in overhead guard for the protection of the operator.

Other features include an 11-in. clutch which has a torque capacity of 320 ft. lb. to operate from an engine torque ability of 57 ft. lb.—more than five times the amount required, and it may be engaged or disengaged without interference to hoisting or tilting operations; also, internal expanding automotive type hydraulic brakes, fully enclosed in the front load wheels for protection against dirt and moisture.

Weighing approximately 5,400 lb., the Hyster 40 has a lifting range of 9 ft. and an initial lift of 10 in. is provided without increasing the height of the truck. The 1½ in. x 5 in. load arms may be adjusted to handle package or pallet loads ranging from 11½ in. to 38 in. wide.

The operator's spring-cushioned seat has a form-fitting back rest and may be adjusted to fit any leg length. To permit greater visibility for the operator, the single cable chain is mounted in front of the hoist cylinder and the instrument panel is conveniently located at the proper height in front of the operator to give full vision while the truck is in operation.



An early view of Bethlehem, Pa., with a Lehigh Valley train going east, along the river, and a North Pennsylvania (Reading) train in the foreground

The Lehigh Valley Rounds Out a Century

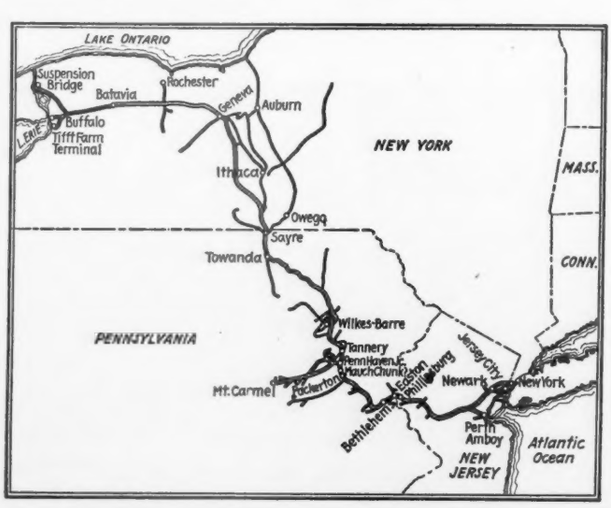
This lakes-to-sea railroad has evolved from a 46-mile anthracite carrier by a process of steady growth, property improvement and development of strategic terminals

THE Lehigh Valley celebrates its centennial on April 21, that date being the one-hundredth anniversary of the enactment by the Pennsylvania assembly of legislation creating the Delaware, Lehigh, Schuylkill & Susquehanna Railroad, which less than 7 years later became the Lehigh Valley Railroad. The original line, 46 miles long, was planned to transport anthracite from the mines in the vicinity of Mauch Chunk, Pa., to the Delaware river at Easton, with the hope that, incidentally, some passenger traffic might develop as well.

At the time this railroad was projected the Lehigh canal, a property of the Lehigh Coal & Navigation Co., already afforded the anthracite mines in the Lehigh valley an outlet to Easton, and thence by the Delaware Division canal to Philadelphia; and plans to build a parallel railroad were not welcomed by the canal operators. Nevertheless, the need for faster, more efficient, year-round service was recognized, and actual construction of the road was begun in 1851. Its first president was James M. Porter, its secretary and treasurer was Asa Packer, and its chief engineer Robert H. Sayre.

In 1855 the Lehigh Valley ordered its first four locomotives and built its first stations, preparatory to putting the complete line in service in September of that year. Almost immediately its extension was undertaken, first by branches reaching additional mines and affording connections with other railroads in eastern Pennsylvania. In 1864, after Asa Packer had become its president, the Lehigh Valley acquired an important coal-originating road, the Beaver Meadow, a 24-mile line from East Mauch Chunk up the Lehigh to Penn Haven, which is the oldest segment of the present system, having been in operation since 1836.

At the end of 1864 the company had



This road begins its second hundred years

Historical pictures illustrating this article are from the collection of W. A. Lucas, associate editor, Car Builders' Cyclopedia.

71 miles of main line and 17 miles of branches. Its equipment included 53 locomotives, 1,127 eight-wheel coal cars, 2,845 four-wheel coal cars, 155 flat cars, 11 passenger cars, 4 baggage cars and 4 house cars. All freight except anthracite was handled at that time under contract with the independent Lehigh Valley Freight Transportation Company, which provided its own equipment.

Already Judge Packer and his associates were working on plans for a great'y-extended railroad, however, and in 1866 they obtained control of the Lehigh & Mahanoy, a 41-mile railroad reaching Mt. Carmel, Pa., and of the North Branch canal, which followed the Susquehanna river from Wilkes-Barre to the New York state line. In another year, the canal's successor, the Pennsylvania & New York Canal & Railroad, had completed a railroad replacing it, which provided a continuous standard-gage line under Lehigh Valley control to Waverly, N. Y., where a connection was established with the Erie. At that time the Erie was a 6-ft. gage line, but the ambitious Lehigh Valley management made an arrangement with it in 1867 for a third rail within its tracks so standard-gage equipment could be run through to Elmira. This was later extended to Buffalo.

Heading Toward Tidewater

Meanwhile, in 1870, plans to extend the Lehigh Valley's tracks to tidewater began to materialize. The road already owned a bridge crossing the Delaware from Easton to Phillipsburg, N. J., where it connected with the Central of New Jersey, and in that year a line was built from Phillipsburg to Bound Brook, N. J. The next year marked the lease of the property of the Morris Canal & Banking Co., which played an important part in the railroad's later development. The Morris canal, extending from Phillipsburg across northern New Jersey, had been opened to Newark in 1831 and subsequently to Jersey City, affording an important outlet for the product of the Pennsylvania anthracite mines.

In 1871 the Lehigh Valley acquired another valuable rail outlet for its coal traffic through the completion of the 114-mile Southern Central from State Line, N. Y., to Fair Haven, on Lake Ontario.

The "Black Diamond Express" of the 'Nineties included a combination baggage and cafe car and an observation parlor car

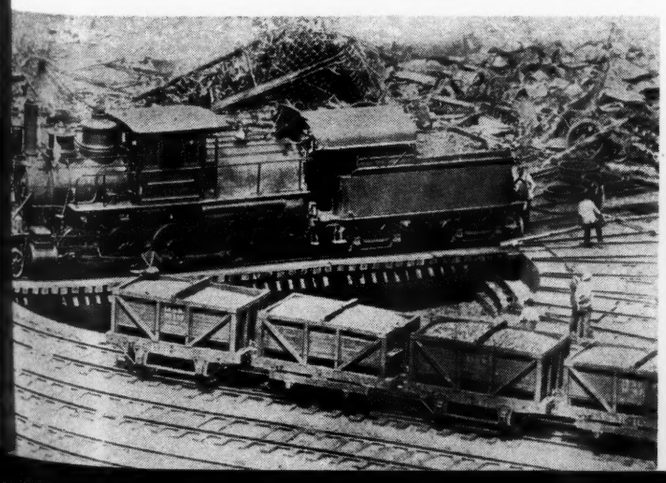
At the same time work continued on the construction of the Easton & Amboy, into which the various New Jersey lines of the Lehigh Valley system were consolidated, and in the summer of 1875 the line from Phillipsburg was opened through to tidewater at Perth Amboy, where large docks and facilities for shipping coal had been completed. During that year about 350,000 tons of anthracite moved over the new line for transshipment by water.

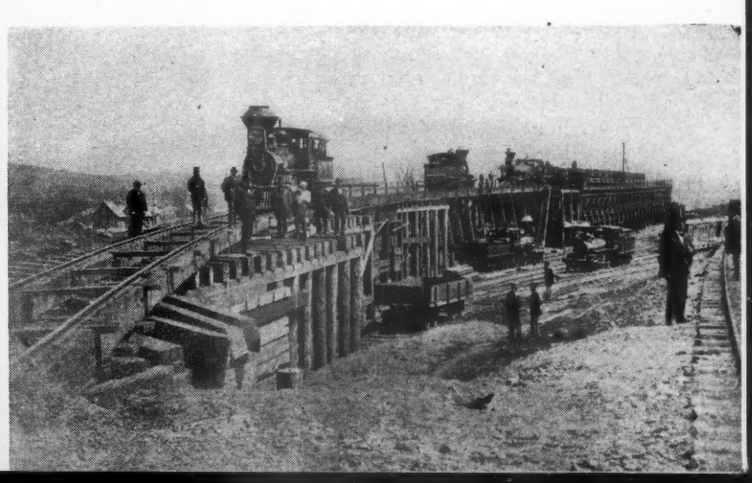
Even though the arrangement with the Erie gave the Lehigh Valley access to Buffalo, the development of its own line to that terminal remained one of the principal goals for which Asa Packer and his associates were working. One move in that direction was the acquisition, in 1876, of the 75-mile railroad from the Pennsylvania state line to Geneva, N. Y., the Geneva, Ithaca & Athens. Some seven years later the Lehigh Valley Railway was chartered in New York. Subsequent consolidations and construction resulted in the completion, in 1892, of a line under the New York company's control from Sayre to Buffalo, its last link being the 97-mile Buffalo & Geneva.

Asa Packer died in 1879, so he did not see the road finally developed as he had planned it. The year following his death was an important one in its history, not only for the establishment of the Lehigh Valley Transportation Line, which operated vessels on the Great Lakes between Buffalo and Lake Superior and Lake Michigan ports until its sale in 1920 was required by federal legislation, but also for the beginning of a general improvement program, marked by the substitution of steel rails for iron and the rebuilding of bridges to accommodate heavier loads. Meanwhile the road's shops were turning out new and larger locomotives and cars, not only for its own use but to some extent for other roads as well.

In 1880 the Lehigh Valley had a 161-mile main line and 119 miles of branches. Its coal tonnage in that year was 4,606,-415 tons; its gross receipts were $7,762,-990; and its equipment included 255 locomotives, 24,465 coal cars and 3,139 "freight, passenger and other cars." Its capital and debt amounted to $53,000,000,

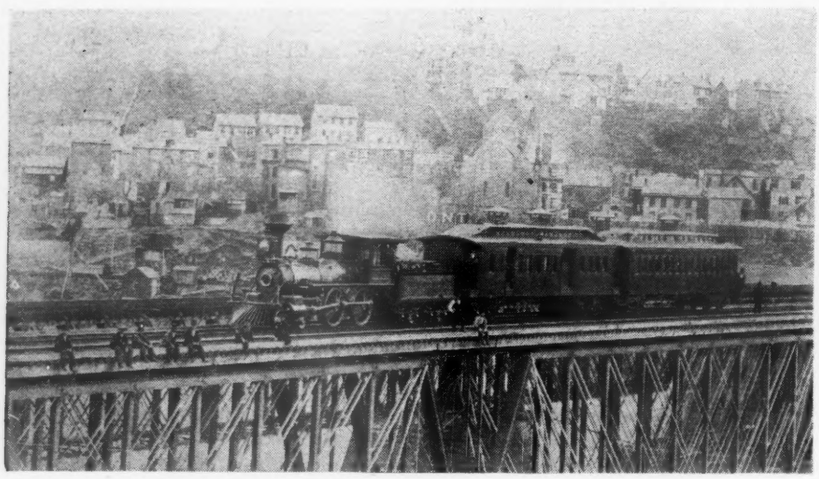
Left—Double-cab engines and "coal jimmies" (about 1880)
Right—The Waverly (Sayre, Pa.) yards in the top-hat era





included in which was the ownership or control of about 30,000 acres of coal lands, with their collieries, and of affiliated canal and railroad companies. The road subsequently was required by law to dispose of its coal properties, however.

By the construction of the Roselle & South Plainfield Branch in 1888, connecting with the Central of New Jersey, the Lehigh Valley obtained access to the Morris canal basin on the Hudson river at Jersey City, where it undertook the development of extensive terminal facilities. (Operation of the canal was discontinued the next year, but the railroad retained ownership of it until 1923, when the state of New Jersey acquired most of its property except the basin at Jersey City.) Meanwhile, in 1888, the 16-mile "Mountain Cut-off," from Pittston, Pa., to Fairview, was completed, affording a shorter line and easier eastbound grades for handling through traffic in the Wilkes-Barre territory.



A Lehigh Valley train crossing the double-deck Delaware River bridge—Phillipsburg, N. J., in the background

Expanding Industries

By 1890 extensive freight depots and yards were in process of construction at Newark and Jersey City. On July 12 the last spike was driven on that portion of the Schuylkill & Lehigh Valley east of Schuylkill Haven, Pa., a line tapping more anthracite fields and supplying a substantial volume of traffic. But anthracite was not the only commodity found in the road's territory in substantial volume. Large deposits of clay, slate, limestone, sand and gypsum were being developed commercially, and as early as 1872 portland cement was being manufactured at Coplay, Pa., a Lehigh Valley station, by David O. Saylor.

Lehigh Valley passenger trains were operated into Jersey City after 1875, using the Pennsylvania's tracks east of Metuchen. Subsequently other trackage arrangements were worked out, for both passenger and freight service, but finally, in 1899, various short lines in the vicinity of Newark were linked together to give the Lehigh Valley its own rails to the New York harbor waterfront. Already it had inaugurated the "Black Diamond Express," a Jersey City-Buffalo day train—plans are under way to celebrate the "Golden Anniversary" of its first run in May of this year—and during the federal operation period at the time of the first World War this became a New York-Buffalo train, as Lehigh Valley through passenger trains were brought into the Pennsylvania's New York station, an arrangement that has continued since that time.

For a short interval beginning in 1891 the Lehigh Valley's properties were leased to the Philadelphia & Reading, but this arrangement lasted less than two years, and the road reverted to its independent status, undergoing a financial reorganization without being forced into receivership. Subsequently its resources have been employed not to extend into new territories but to improve its facilities and enlarge its terminals. Outstanding among these developments was the construction, completed in 1916, both of new passenger and freight stations and supporting facilities at Buffalo, and of the Claremont terminal at Jersey City, accommodating large ocean steamers.

When plans to consolidate American railroads into a limited number of systems were being pushed actively, in the prosperous period following the restoration of their properties after federal control had terminated, control of a majority of the Lehigh Valley's common stock was acquired by companies affiliated with the Pennsylvania. Arrangements were made, however, to deposit this stock with trustees, so that the independence of the road's directors and management could be preserved. During the recent war the Lehigh Valley not only transported vast quantities of military freight, but in addition was one of the principal routes in the East for the movement of service men, as its tracks reached two important installations, the Sampson, N. Y., naval training station and the Army's Camp Kilmer, near South Plainfield, N. J., the latter being one of the main assembly points for troops moved overseas through the New York Port of Embarkation. Since V-E Day Camp Kilmer has been equally busy as a separation and distribution center for veterans returning from service abroad.

The "Black Diamond" of today

War Problems Were Solved by Teamwork

W. F. Kirk, whose "Kirk Orders" became famous on western lines during the war, tells how co-operation solved war-time traffic problem—Sees menace in unions' wage demands

VOLUNTARY co-operation among the western railroads and between these railroads, their patrons and the government were the keys to the successful war-time handling of the greatest traffic load in their history, according to W. F. Kirk, assistant general manager of the Missouri Pacific—and formerly western director of the railway transport department of the Office of Defense Transportation, and agent for the Interstate Commerce Commission—in an address before a joint session of the Traffic Club of St. Louis and the Trans-Missouri-Kansas Shippers Board in St. Louis, Mo., on March 20. An abstract of Mr. Kirk's talk, which was entitled "An operating man's viewpoint on the national transportation situation," follows:

As a railroader I am not at all unwilling to say something about the amazing war-time performance of the railroads, for the record is one in which every railroad man should have a sincere pride. And since shippers had such a large part in making that record possible, I feel that they, too, have more than a passing interest in some of the details.

Farsighted Managements

It is not necessary to dwell on the conditions of the Western railroads prior to December 7, 1941, except to pay tribute to the far-sightedness of their managements in making preparations to meet the transportation requirements that were to come. Reduction of coastal and inter-coastal shipping commenced late in 1940 and continued to decline until it passed out of the picture immediately after our declaration of war on Japan. Naturally, this placed an extra volume of traffic on the railroads.

Normally, the traffic of the western lines is predominently eastward, and any improvements made during the years have been to increase the movement of the larger volume in a minimum number of units. This doesn't mean that the westward traffic was subjected to a less expeditious movement, but, with the increased military activities in the Pacific, westward traffic rapidly increased so that late in 1942 the total was nearly equal in both directions. As the westward volume increased, without any decrease in the eastward movement, it became apparent that some plan had to be worked out to prevent delay. Restrictions on materials that came early in 1942 prevented any great increase in railroad plant capacity.

Several plans for meeting the situation were explored but the only answer seemed to be in what might be termed organized co-operation. The Western carriers, the Interstate Commerce Commission and the Office of Defense Transportation, all had the same objective—to move the greatest amount of traffic as expeditiously as possible with the facilities at hand.

Furloughed from my railroad to serve as representative of these agencies, it became my obvious duty to seek the fullest possible co-operation of all shipping and transportation interests, governmental and public; and to see that every effort was made to avoid so far as possible any disturbance to the general traffic flow. In the beginning, many requests were made for priorities, and later requests for routing advance. The requests for priorities came from those who had not experienced the tragic results of the priority system during World War I. All such requests were denied and shippers were told they could be more helpful if they continued to follow their orderly methods of routing traffic, and were assured that, except for some dire emergency which would interrupt an entire line, all traffic would not be diverted or rerouted.

Shippers Cooperated

Because shippers co-operated along these lines we were able to anticipate the load that would pass through the points most vulnerable to congestion. Immediately after the volume had passed the river crossings and the Twin Cities we were able to advise the carriers so they could plan their work 48 to 96 hr. ahead of arrival. Traffic was channeled to the under-capacity lines and, in a general way, maintained overall schedules. I think it obvious that this system prevented long back-hauls in order to reroute around a trouble spot.

Whenever necessary to reroute traffic I endeavored to avoid disturbing the shippers' route, as I have always recognized that as one of the prerogatives a shipper must maintain in order to conduct his business properly. While there were a large number of cars rerouted, the figures indicate that over 90 per cent were moved through to destinations without any disturbance of routings.

Our contacts with the transportation officers were such that only seven of the 316 so-called Kirk Orders issued were initiated by me; all the others resulted from co-operative contacts with and between the various transportation officers. I also endeavored to permit any diverted cars, after passing a troubled spot, to return to the shipper's routing by allowing the railroads to use their discretion in routing the traffic and by including in the orders—"for delivery to proper connection."

Westbound Peak in May, 1945

The accomplishments of the lines serving the west coast were much greater than the average individual can conceive. Conditions early in 1943 were not good, and the best movement of westward loads that was made did not exceed 2,600 per day into California and 1,135 per day into the Pacific Northwest. This later was increased so that in 1944 the movement into California amounted to 2,910 loads per day, and into the Pacific Northwest 1,258 loads per day. As was expected after V-E Day, the movement continued to increase and the peak was reached in May, 1945, when the daily average movement to California totaled 3,515 loads and into the Pacific Northwest 1,550 loads.

At no time were the middle-west lines, that is the lines between the river and the mountains, over-loaded, nor were the lines leading into the Pacific Northwest. It was unnecessary to reroute or divert any traffic on the middle-west lines except during the periods of high-water and flood. It must be remembered that during the time of this heavy movement westward that the eastward movement was not decreasing, as cars unloaded on the west coast for which there were no loads had to be returned empty—but promptly. If by any chance anyone doubts that the railroads performed a herculean task, consider these figures:

Cars of export freight unloaded along the west coast totaled 211,000 in 1942; 453,000 in 1943, 602,000 in 1944 and up to V-J Day had increased to the point which had the war continued would be totaled 825,000 in 1945.

All in all the movement of war-time transportation was an inspiring job and reflected credit on the railroads, their employees, shippers and travelers. It reflected credit upon the federal officers who had anything to do with transportation and above all it demonstrated more effectively than any other one thing the efficiency of our system of private enterprise. It showed what could be done through co-operation, through working together in a common cause.

It would seem that after such a striking proof of the efficiency of that system the American people would be vehement in their demands for public policies that would absolutely guarantee the continued progress and prosperity of their railroads.

Everyone admits that without adequate rail transportation this country could not have won the war. Efficient rail transportation was the backbone of production and the fact that we outproduced the world enabled us not only to supply our allies, but to equip our men so that they could conquer our enemies.

Practically all of the war-time transportation work was done by the railroads and, although they handled the greatest volume of traffic on record in spite of countless difficulties like material and man-power shortages, we are confronted today with agitation on all sides for more public expenditures that will have the effect of further subsidizing competing forms of transportation —thus weakening the railroads and impairing their efficiency and continued progress.

Wanted—a New Policy

Demands for more and more transportation facilities at public expense, which are being made by selfish interests or by persons who in my opinion are not properly informed, point to the need of a new national transportation policy—a policy that will not eliminate competition but which will see to it that competition is conducted on a fair and equitable basis—a basis that will not penalize the railroads by forcing them to charge their patrons all of their costs of doing business and permitting their competitors to pass along a large share of their costs to the taxpayer.

As a railroader I cannot emphasize too strongly the fact that the railroads do not expect to have the nation's traffic handed to them on a silver platter. They recognize that there is a place for other forms of transportation. They do not want to bar trucks and buses from the highways, close down the airports or sink all of the inland boats and barges. But they do feel that those who, for profit, use transportation facilities maintained at public expense should pay a fair share of the cost.

And as a railroader I cannot emphasize too strongly the fact that the railroads are not smugly self-satisfied, and convinced that they have the proper answer to every transportation problem. They recognize some of their shortcomings, perhaps more clearly than those who use their services; but the mere fact that they do recognize them is a pretty good indication that, so far as they are permitted by public policies, they will come up with the right solution. Their aim now, as ever, is to give the American public the best transportation service humanly possible and at the lowest possible cost.

I wish it were possible to tell you that the future is bright with promise—that the railroads will continue to improve the quality of service and keep on lowering their charges. But the fact remains that railroad managers are just plain every day hard-working practical-minded business men—not magicians. And, in view of the demands that are being made upon them and in view of the all too general trend of the times, it is apparent that a magical skill undreamed of would be necessary in order to meet these new demands, cope with subsidized competition and keep on reducing rates.

Volume Is Diminishing

All through the war the average freight rate was no higher than it was prior to the war. Volume, and volume alone, made that possible, for wages and prices of materials and supplies advanced greatly. But now, right at the time when the volume is diminishing, the railroads are confronted with demands for higher pay and for changes in working agreements that will, if put into effect, materially increase the cost of doing business.

I do not have to tell you that any thought of a rate raise is as abhorrent to a railroad as it is to a shipper. I started to say abhorrent to a railroader but unfortunately, that would not be universally true, for already some of those seeking more pay have gone on record as saying ability to pay did not have any proper bearing on the justice of the demands. But railroad management knows that higher rates will force business to other forms of transportation and wonders why those who represent the employees do not take this fact into consideration.

For more than three weeks arbitration boards have been hearing testimony on the demands of 18 rail unions, representing 85 per cent of all rail workers, for wage increases which the railroads say will add $920,000,000 annually to their payrolls on the basis of 1941 service hours. Two other organizations, the trainmen and engineers, refused to agree to arbitration and their demands for increased pay and changes in working agreements are now being heard by a fact-finding board. All are asking for a straight increase of $2.50 a day and on top of that the proposed rule changes would cost an estimated $1,500,000,000.

Perhaps this is not the place to discuss the merit or lack of merit of any of these demands, but as an operating man scheduled to give his views on the national transportation situation, I can say that the rule changes proposed will, if adopted, have a very serious effect on operating efficiency and, in my opinion and that of many seasoned railroaders, a very serious effect, sooner or later, on railroad employment.

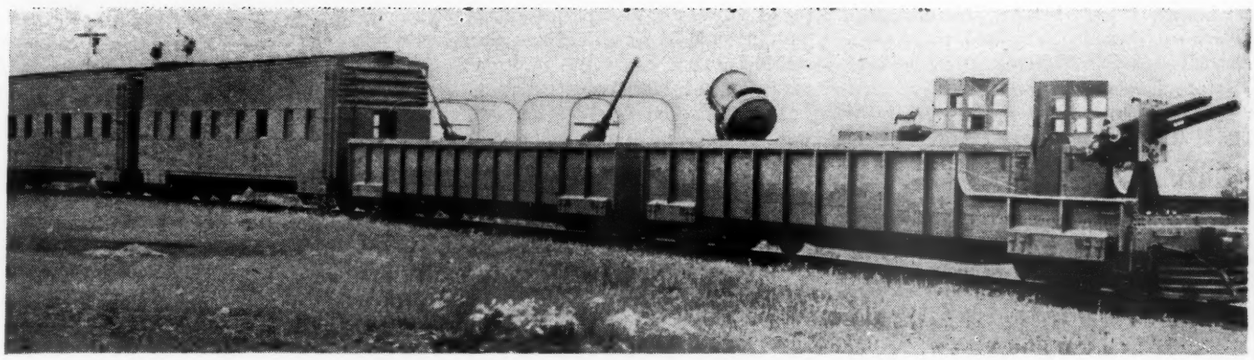
Wasteful Practices Demanded

Out of my long experience in the operating department and after a study of some of the 45 rules change demands that have been presented, I can in all truth say I concur in the statement made before the fact-finding board to the effect that the proposals would gravely interfere with and restrict the ability of the carriers to render essential transportation service; that they would destroy in large part the use and usefulness of modern equipment and facilities and compel, under penalty, the wasteful operation of many additional unnecessary trains; and that these proposals of the organizations would produce no benefit whatever from a safety standpoint, but, on the contrary, would increase the hazards of serious accidents and casualties to employees and the general public.

I wish I could offer some quick, easy-to-reach solution for the railroads' problem. To my mind nothing is more important to the continued peace, prosperity and security of this country than that of keeping our railroads strong and progressive—and operating under the banner of private enterprise. To my mind also that can be accomplished only to the extent that the general public takes a keener and more active interest in them and their affairs.

If the railroads face trouble, isn't it because the public has too long taken them for granted, has far too long shrugged its shoulders whenever railroaders warned of the need of changed public policies? It is by no means too late for those policies to be adopted, but they will never be if we—the public—continue to feel that the railroads' problems are just that, and not, as they really are, the public's problems.

ELECTRIC RAILWAY FANS.—The New York division of the Electric Railroaders' Association, a "fan" organization which specializes in electric railways—both trolley lines and heavy traction—has arranged a schedule of nine inspection trips for its 1946 season. The list may be obtained by addressing the Association at 51 West Thirty-fifth street, New York 1.



An armored train equipped by the Canadian National was kept in readiness at all times to repel possible invasion

C.N. Port One of War's Secret Cities

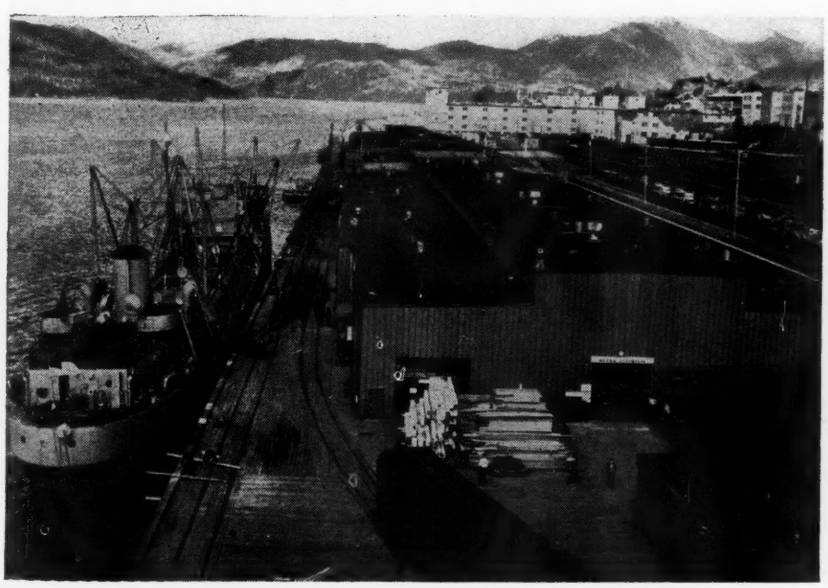
Prince Rupert, in northern British Columbia, became a vital sub-port of embarkation, through which troops and supplies moved to the Pacific theater

JUST 500 miles north of Seattle, near the Alaskan frontier, the port of Prince Rupert, B. C., came into unusual prominence in military eyes and was shrouded with unusual secrecy, as far as civilians were concerned, a few months after Pearl Harbor. It was selected, early in 1942, when the Japanese were over-running the Western Aleutians, as a sub-port of embarkation, to cut the water distance to Alaska and to the northern portion of the Pacific theater of operations. The United States Army, in conjunction with the Canadian forces, established a large supply depot and other installations there.

Prince Rupert is served by a line of the Canadian National, which branches off the main transcontinental line at Red Pass Junction near the western boundary of Jasper National Park. The railway line, originally the Grand Trunk, was built to open the Canadian Northwest in the first decade of this century. Sir Wilfrid Laurier, prime minister of Canada at the time, was its most ardent supporter, backed by Charles M. Hays, general manager and later president of the Grand Trunk. These two men had visions of making Prince Rupert a great Pacific port.

The first survey party arrived in what was to be Prince Rupert in May, 1906. By 1910, the population was 5,000. In 1912, however, Hays went down in the sinking of the Titanic, on his way back from Europe, where he had been promoting the establishment of steamship lines from Prince Rupert to Japan and Vladivostok. His death and World War I had a dampening effect and the population of the port dropped from 6,000 to 3,500. At the beginning of World War II, the population was again 6,000, but many of these were Japanese, who were immediately evacuated from the coastal area.

The railway to Prince Rupert, built by the Grand Trunk and now part of the Canadian National, traverses a district of towering mountains for much of its 678 miles between Red Pass Junction and Prince Rupert. However, by following river valleys, a most satisfactory grade line was obtained. The ruling grade is 0.4 per cent, except for the climb up the western slope of the Canadian Rockies, near the eastern end of the line, which is on a 1 per cent compensated grade. The weight of rail on this line, known as the Smithers division, is 80 lb. throughout. The maximum curvature is 6 deg.



U. S. Army installations on the docks at Prince Rupert comprise several large warehouses and other facilities

Before Pearl Harbor, the Canadian National operated a mixed train three times weekly in each direction between Prince Rupert and Red Pass Junction. This was supplemented occasionally by local freight trains over portions of the line, but these were not numerous. This service was more than adequate to take care of the rather sparsely settled regions of Northern British Columbia traversed by the lines. Several agricultural communities were served and Prince Rupert was the center of a halibut packing industry. As the Prince Rupert base became steadily more important during the war, traffic increased to almost astronomical figures. A daily passenger train was established in each direction and there was a steady procession of troop trains moved over the line in addition. A daily fast freight train was operated in each direction, with several through extra freights supplementing the service. The parade of war personnel and material continued unabated until August, 1945. By January 14, 1946, however, traffic had dwindled to approximately peace-time figures and tri-weekly, instead of daily, passenger service was resumed, with proportionate curtailments in freight services.

Relieved Stress at Seattle

The Prince Rupert sub-port of embarkation served by this line was officially opened on April 5, 1942. By the end of the war, the port potential had been built up to 50,000 cubic tons of freight per month. Dockage along the waterfront was doubled, storage and handling space were increased several times over and all other facilities were increased and improved. A huge warehouse, with 400,000 sq. ft. of storage space, marine repair sheds and cargo sheds were also built, as well as a cold storage plant. A staging area to house and equip military personnel was also constructed.

This port contributed not only to the war in the Aleutians, but also to the building of the Alcan highway, the Canal project, and the numerous Canadian northwestern air fields. It relieved the busy Seattle port of embarkation on all of these projects.

Prince Rupert was also a shipbuilding base, the Prince Rupert Drydock and Shipyard being owned and operated by the Canadian National. A large number of ships were built there and, at the peak, some 2,000 shipbuilders were employed. Securing labor at this out of the way spot presented a major problem. However, in all, 13 large freighters and 4 minesweepers were built at this C. N. R. facility; while 914 ships were drydocked and repaired and 2,500 other vessels were repaired without drydocking.

The two ships regularly operated by the C. N. in British Columbia coastal service handled thousands of civilian workers and military personnel into and out of Prince Rupert. They were also taken out of regular service several times to handle troops and supplies from Prince Rupert to Skagway, Alaska.

The Smithers Division

The Canadian National line serving Prince Rupert has, as previously stated, an astonishingly good grade, considering its location in a district of towering mountains. The reason for the variable grade line is that the railway traverses five river valleys and the locating engineers were fortunate in finding passes through the water-sheds which enabled them to maintain the ruling grade of 0.4 per cent.

The territory traversed is sparsely inhabited except in one or two locations where agricultural communities have sprung up, and peace-time traffic consists largely of agricultural products and timber. The strain of providing the vastly increased number of crews, telegraphers, etc., for this line would have been great for any railway with less extensive mileage and fewer employees than the Canadian National. This line, however, was able to recruit an adequate supply of man-power to handle the operation of the many additional trains from other parts of its transcontinental system, largely from the prairie provinces.

One of the difficulties encountered was in supplying an adequate ticket-selling force in Prince Rupert, where the increase in population of some 300 per cent, plus large movements of military personnel, increased the work at the Prince Rupert ticket office tremendously. Trains loaded down with 500 passengers each were by no means uncommon, and the dining car crews regularly served meals continuously from 7:30 a. m. to 11 p. m. The revenue from ticket sales climbed so rapidly at Prince Rupert that staff increases never quite caught up with the working volume until after the peak was reached, and the ticket sellers who were available had to put in long hours of overtime. The ticketing was particularly difficult in view of the fact that returning military personnel demanded transportation to small towns all over the United States.

Other Contributions

Among the other contributions of the Canadian National to the war effort was the building of an armored train consisting of a Diesel-electric locomotive and four flat cars and two box cars. The locomotive was armor-plated and camouflaged to resemble a box car and the cars were equipped with artillery, including anti-aircraft guns, and batteries of search lights. Fortunately, it was never necessary to use this train in actual combat.

The more remote coastal and interior areas of British Columbia were lacking in communication facilities when the war began. It was imperative, in case of invasion, that these remote areas be linked with rapid and dependable communication. The Canadian National was called upon to take over the major share in the building of the Pacific Communications System, which became a 2,000-mile network of land telegraph lines and comprised also 23 frequency modulation radio stations. The system was built in record time when Japanese successes in the Pacific brought a real and direct threat to Canada's West Coast.

Unloading war freight for the Pacific on the U. S. docks at Prince Rupert, B. C.

Williams Heads W.A.B. and U.S. & S.

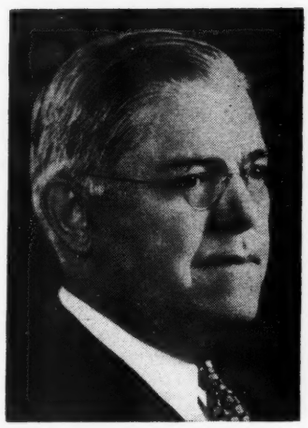
A. N. Williams, who first joined the Westinghouse Air Brake Company on February 6, 1945, as a director, and was elected vice-chairman of both Westinghouse Air Brake and the Union Switch & Signal Company, effective January 1, 1946, was elected president of both companies following the annual stockholders' meeting on April 16. George A. Blackmore was re-elected chairman of the board. As chairman, he will continue to be chief executive officer of the two companies.

While Mr. Williams comes to the companies after serving four years as president of the Western Union Telegraph Company, he is primarily a railroad man. Born in Denver, Colo., he was educated in the public schools of that city and received his higher education in mechanical engineering at Sheffield School, Yale University. He began his railroad career as a rodman on the Denver & Salt Lake, and worked for other railroads as a machinist's apprentice, brakeman, section-hand and section foreman. From 1917 to 1921 he was construction engineer and operating superintendent of various petroleum industries in Oklahoma, Texas and Mexico. He joined the Midland Valley as assistant general manager in 1921 and served as general manager from 1922 to 1926.

Mr. Williams served as general superintendent of the Minneapolis, St. Paul & Sault Ste. Marie from 1927 to 1932, when he was made president and general manager of the Chicago & Western Indiana and the Belt Railway of Chicago.

In August, 1939, Mr. Williams was named executive vice-president of the Lehigh Valley, and in January, 1940, he was named president. He was elected president of Western Union in June, 1941, serving in that capacity until he resigned to join Westinghouse Air Brake.

Mr. Blackmore has more than 50 years' service with the companies. At the age of 12 he entered the employ of Union Switch & Signal as an office boy, and advanced through various positions. In 1909 he was appointed assistant eastern manager of the company, with headquarters in New York. In 1911 he was named eastern manager, and in 1915 he returned to Swissvale, Pa., as general sales manager. He was elected second vice-president in 1917 and first vice-president and general manager in 1922. He became a director of the company in 1925 and in 1929 was elected president. In 1932 he also was elected vice-president and general manager of Westinghouse Air Brake and, in 1936 he was named president and director. In 1940 he was elected chairman and president.



George A. Blackmore

A. N. Williams

Four promotions were announced at the same time by Mr. Blackmore, effective immediately. They follow realignment of executive duties necessitated by the retirement last January 1 of four officers who combined 193 years of service with Westinghouse Air Brake and Union Switch & Signal.

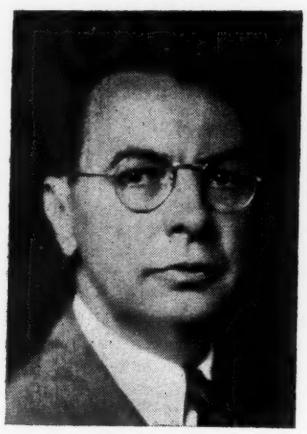
S. L. Poorman, formerly assistant vice-president, was elected vice-president in charge of sales of Westinghouse Air Brake. Mr. Poorman, who attended the Carnegie Institute of Technology, became identified with Westinghouse Air Brake in 1912 as an apprentice in the engineering department. He subsequently was test engineer, mechanical expert and representative of the company in Atlanta, Ga., Washington, D. C., Boston, Mass., and New York.

Mr. Poorman became eastern manager for the company with headquarters in New York in 1938 and in 1944 was named assistant to the first vice-president with offices in Wilmerding, Pa. He was named assistant vice-president in charge of sales last year.

W. C. Landis was elected vice-president in charge of manufacturing of Westinghouse Air Brake and of Union Switch & Signal, Swissvale. He had been works manager of both plants. Mr. Landis became associated with the air brake concern in 1915 as a trucker and general utility man. He enlisted in the Navy in 1917 and rose from second class seaman to junior lieutenant. He resumed his work as plant engineer at Westinghouse Air Brake in 1919, and by 1927 was superintendent of the Standard Brake departments. He was named assistant works manager in 1930 and works manager in 1940. In 1942 he assumed the position of works manager at Union Switch & Signal also.

H. W. Wolff was elected vice-president in charge of purchasing of Westinghouse Air Brake and Union Switch & Signal. He has been director of purchases at both plants since 1939. From 1926 to 1936 he held various executive duties at Swisvale, for a period serving as manager and director of the Westinghouse Union Battery Company.

Joseph S. Smith was elected treasurer of Westinghouse Air Brake. He formerly was assistant treasurer. Mr. Smith, who attended the University of Pittsburgh, started work for the company in 1926 as a clerk in the paymaster's department. He successively became secretary to the vice-president and treasurer, secretary of the committtee on investments, acting assistant treasurer, and assistant treasurer.



H. W. Wolff

S. L. Poorman

COMMUNICATION AND BOOK . . .

Steelways of New England, by Alvin F. Harlow. 461 pages. 8 in. by 5¼ in. Bound in cloth. Illustrated. Published by Creative Age Press, 11 East 44th street, New York 17. Price, $3.50.

Students of railroad history and railway fans generally, and particularly those whose first interest is in New England roads, will welcome this book and treasure it highly. It is the first in a series of 16 projected volumes in a "Railroads of America" series, and establishes a standard that the succeeding works will not easily exceed.

Many railroad histories have dealt with the development of only one road or system, even though it may have grown from a number of individual lines. This one, however, covers the entire railway network of New England, which means that the author had a tremendous task simply to accumulate and organize and appraise the immense amount of available source material.

Because New England had many of the earliest railroads, and also probably because New Englanders have been particularly strong for local enterprise and cooperative undertakings, the number of separate companies that Mr. Harlow had to deal with is, comparatively, very large, and the relationships between them, as their fortunes varied with the years and the personalities of the men controlling their destinies, very complex. Because so many roads have been woven into the network, because so many of the companies that figured in the slow growth of the lines that now serve New England long ago disappeared from the scene, it is not easy to keep clear the part each played in the changing picture, even with such a patient and careful guide as Mr. Harlow, and it is regrettable that the publisher did not see fit to include a few simple maps in the volume to help the reader whose acquaintance with New England railway geography may not be too thorough.

In a general way, the book's 20 chapters relate the history of New England's railroads in a chronological pattern. The first "rail road" in the region, it is generally accepted, was Gridley Bryant's Granite Railroad at Quincy, Mass., which ran its first train of horse-drawn cars October 7, 1826, according to Mr. Harlow. A few tramways had preceded it, but it was longer and better built, had switches and a turntable and 8-wheeled cars with movable trucks. Moreover, it was owned by a corporation, opening a path for the evolution of the American railroad within the fabric of the free enterprise system.

In successive chapters Mr. Harlow tells of the difficulties the early New England railroad promoters had in securing charters from conservative and covetous New England legislators, and in obtaining financial backing despite the opposition of canal and turnpike owners. He then reports in some detail the vicissitudes of the "Massachusetts triplets," the Boston & Worcester, the Boston & Providence, and the Boston & Lowell, in their pioneering period, when the water hose froze, when the broom attached to the pilot failed to sweep the snow from the tracks, or engines slid on icy rails right through the walls of the stations.

The book then outlines the steps that led to the construction of the Western line across Massachusetts to the shore of the Hudson at Albany, and to the long period of intensive competition between the Boston & Maine and the Eastern in the territory between Boston and Portland, Me. George Whistler, Josiah Quincy, Jr., Ginery Twitchell, Chester W. Chapin, Jeremiah Prescott (who persistently regarded the telegraph as a new-fangled and unreliable contrivance out of place in railroading), and Thornton K. Lothrop—these were important figures in that stage of New England railroad history, though their names may not be widely remembered now; and such roads as the Portland, Saco & Portsmouth, the Portsmouth, Great Falls & Conway, the Salem & Lowell, the Essex, the Cocheco, the Andover & Wilmington, and the Manchester & Lawrence all played their parts in the creation of the B. & M. of today.

Mr. Harlow's next two chapters tell the story of Connecticut's railroads, especially the New York, New Haven & Hartford and its many predecessor companies, including the Housatonic, the Naugatuck, the New York, Providence & Boston, the New York & New England, the Shepaug, and the Boston, Hartford & Erie. The N. Y. & N. E., he points out, itself was developed from some two dozen smaller lines, and "looted by pirates in infancy, with a main line as crooked and hilly as a snake-trail, unable to obtain any sound outlet to west or southwest, menaced by so well-entrenched an antagonist as the New Haven, its eventual demise was as certain as the sunset." Before that event occurred, however, its very capable president, Charles P. Clark, gave New England one of its most famous trains, the "elegant" all-white, gilt-lettered New England Limited, commonly known as the Ghost Train.

Another chapter deals with the Old Colony and its Cape Cod extension and its relations with the Fall River Line, longest-lived of the several New York-Boston rail-water passenger routes. Turning inland then, the author discusses the development of the Fitchburg and the construction of the Hoosac tunnel, the "forty years war" in Vermont between the Rutland and the Vermont Central, their predecessors and connections, and the group of little—but sometimes highly profitable—lines radiating from Concord, N. H. Then follow outlines of the origin and growth of the more northerly New England roads, such as the Boston, Concord & Montreal, the Bangor & Piscataquis, the Atlantic & St. Lawrence, the Maine Central, and the Bangor & Aroostook. The last-named, incidentally, was at the point of financial death, in its early days, according to Mr. Harlow, when the American Express Company, seeking revenge after having been thrown off the Canadian Pacific, came to the rescue of this line into what had been exclusively C. P. R. territory.

But this road-by-road account of the development of the New England lines does not complete the book. There are chapters on the narrow-gage lines, on early operating methods and difficulties and expedients, on the evolution of the passenger car and locomotive and the express system. And the last chapter, one of the most instructive in the volume, tells in a highly condensed fashion what some New Englanders contributed to the development of railroads in other sections of the country—of Joseph E. Sheffield, who built the Chicago & Rock Island to and across the Mississippi river; of John W. Brooks, promoter of the Michigan Central and the Chicago, Burlington & Quincy; of the several New Englanders who were key figures in the early history of the Union Pacific; of Collis P. Huntington of Central Pacific, Southern Pacific and Chesapeake & Ohio fame; of the succession of New Englanders on the Santa Fe, the presidency of which, says Mr. Harlow, was for decades a "private fief of New England"; and of a similar succession of promoters and executives of the Northern Pacific.

These are not all by any means of New England's sons who were dominant factors in the growth of railroads in other sections, and Mr. Harlow goes on to mention many more whose energy and influence contributed substantially to the creation of the American railway system.

Conditions on Mexico's Railways

New York, N. Y.

To the Editor:

The article by Mr. Stevens describing conditions on the Mexican railways (*Railway Age*, March 30, page 672) is undoubtedly correct. Those of us who have followed and known of conditions there since the days of Porfirio Diaz are not surprised.

The railroads were built with money supplied by citizens of the United States. The revolutionists took them over and gave us some beautifully engraved pieces of paper called Bonds which have never been honored. The holders, ordinary citizens, were not as well organized as the oil companies and never got a show of effective action by our Government.

We needed minerals from Mexico during the war so Mr. Stevens tried to get them out and all things considered did a fine job but it meant that we of the United States furnished the money for such rehabilitation as was necessary.

Elihu Root said in 1906 that the basis of friendly relations between the nations of the Americas should be mutual self-respect and Elihu Root was a great statesman. Your warning as to the effect of dominance of industry by labor is not far-fetched. It should be a warning to present purchasers of Mexican securities.

Back of it all is lack of honesty by the governing powers and maudlin theories of good neighborliness.

Fred Lavis

GENERAL NEWS

Kendall Report Notes New Freight Records

C. S. D. chairman lists recent "highs" in loadings of box cars and reefers

"New high records in freight transportation" made by the railroads in recent weeks are recorded by Warren C. Kendall, chairman of the Car Service Division, Association of American Railroads, in the latest issue of his monthly report on the "National Transportation Situation." A "new high" in box car loadings was reported for the week ended March 30 when 384,112 cars were loaded as compared with the previous high of 380,527 cars for the week ended November 3, 1945. Coal loadings for the week ended March 23 totaled 190,058 cars, it being "extremely rare that a 190,000 car week is reported"; and loading of perishables in refrigerator cars "has reached new highs every week since January 1," the weekly average being 37,197 cars.

Along with this maintenance of high traffic levels, Mr. Kendall was able to report "further encouraging developments" on the matter of car detention. The car detention by receivers of freight over the free time dropped to 18.18 per cent in March as compared with 21.16 per cent in February. And the average turnaround time in March was 14.79 days, compared with 16.5 days in February and 14.97 days in March, 1945. There was, however, a slight increase in the number of freight cars awaiting repairs, 4.4 per cent on March 1 compared with 4.2 per cent on February 1.

Coming to his discussion of equipment conditions by types of cars, Mr. Kendall reported that shippers' requests for box cars "continue heavy in all sections and while the situation with respect to available supply has considerably improved on western roads, eastern and southern roads are experiencing an extremely tight situation with some deficiencies reported." These conditions in the East and South have made it necessary to reduce the deliveries by roads in those territories of empty box cars to western lines.

During the three weeks prior to April 15, western roads reported a tapering off of grain loadings, and no blocked elevators had been reported since March 13. At the same time the loading of box cars with other miscellaneous and l.c.l. merchandise on western roads has considerably increased, and the general expectation is that 1946 will be another year of heavy harvesting of grain. These harvest requirements begin early in June, and Mr. Kendall warned that they will make it necessary "to intensify the efforts of all concerned by the closest cooperation in expeditious handling of box cars."

The settlement of strikes in the automobile industry has brought a considerable increase in the demand for auto box cars of the type used for loading set-up vehicles and parts, but the supply of such cars has been adequate thus far. With respect to ventilated box cars, Mr. Kendall noted that the heavy demands for perishable loadings in southeastern territory brought about the reissue of Special Car Order No. 37 to effect the relocation of these cars and otherwise assist the loading roads. Loadings of livestock have been running about 14 per cent above the 1945 loadings, and the "most expeditious handling" of stock cars will be required to meet all the demands.

The record coal loadings noted above were in anticipation of the strike of bituminous miners, and the railroads are now taking advantage of the respite to relocate coal cars to owning lines in anticipation of renewed haevy demands when the mines resume normal operations. The program calling for the export movement of approximately 1,600,000 tons of coal monthly to Europe "was overshipped 26 per cent in March, but will be drastically curtailed in April" due to the strike, Mr. Kendall said.

He went on to report on gondolas, saying that the supply is adequate except along the Pacific coast, a condition which is being corrected by the movement of empties from the Middle West. The situation is much the same with respect to flat cars. Requirements for covered hoppers continue heavy with "no surplus available," and over 300 eastern cars, temporarily assigned to middle western roads, have been ordered home.

As noted at the outset, the loading of perishables "continues at an all time high," but Mr. Kendall reported that "at present sufficient cars are on hand and in sight for all growing areas." The total perishable loading from January 1 to March 30 was 447,219 cars compared with 411,801 cars during the corresponding period in 1945.

Discussing military transportation, the C. S. D. chairman noted that the movement of troops returning from overseas is decreasing; and he added that "all such movements will be handled without any difficulty." Meanwhile the railroads are meeting all requirements to fill available shipping space in connection with the return of prisoners of war to Europe. Mr. Kendall said that as of April 15 there were approximately 150,000 prisoners still in this country.

American Locomotive Raises Prices for Wheel Tires

The American Locomotive Company announced a 12 per cent increase in its prices for locomotive and car wheel tires, effective April 15. This was reported to be the first such increase since October 1, 1941.

I. C. C. Gets Railroad Rate Rise Petition

25 per cent increase in freight charges sought to offset higher costs

Asserting that "the stage is set for a transportation crisis unless effective remedial measures are promptly taken," the railroads this week asked the Interstate Commerce Commission for a 25 per cent increase in freight rates, with certain exceptions as to which lesser increases are sought. The petition, which had been expected since the arbitration boards made their recent decisions awarding wage increases of 16 cents per hour, went to the commission on April 15.

The proceeding it launched has been docketed as Ex Parte No. 162.

It asks authority to make the freight rate increases effective May 15 upon one day's notice, "in advance of hearing and final disposition of this petition." No new increase in passenger fares is sought, but the petition does seek to continue in effect without expiration date the wartime increase of 10 per cent in passenger rates, which was authorized in the Ex Parte 148 proceeding and is scheduled to expire six months after the legal termination of the war.

Important Exceptions—The exceptions to the general increase of 25 per cent in freight rates would include limitations of increases to maxima of 10 cents per 100 lb. on cotton; 15 cents per 100 lb. on fruits and vegetables, including citrus; 10 cents per 100 lb. on lumber and woodpulp; 6 cents per 100 lb. on petroleum and its products in tank cars; 10 cents per 100 lb. on sugar; and 4 cents per 100 lb., or 80 cents per ton, on iron and steel.

On iron ore the proposal is to increase all rates 12 cents per ton. Coal and coke rates would be increased in amounts from 15 cents to 40 cents per ton; sand, gravel, crushed stone and slag, 20 cents per ton; various other specified products of mines, from 20 cents to 40 cents per ton; and cement, brick, building tile and lime, 50 cents per ton.

If the proposed increases are made effective May 15, the petition estimates that they would produce $625,000,000 in additional revenue this year. Against this it sets the added costs to be incurred this year, including the estimated increase of $619,000,000 in the wage bill, including payroll taxes, and a rise of "at least" $167,000,000 in the cost of materials and supplies (including fuel) as compared with 1945. As compared with 1939, the payroll for 1946 will be up $1,355,000,000, and the cost of materials and supplies $500,000,000.

Need for "Immediate Action"—The request for authority to make the increases effective May 15 is based upon the "exigencies of the situation," which requires "immediate action," the petition pointing out in that connection that "increased rates cannot be made retroactive, so that each day's delay in the effective date thereof means an irreparable loss to petitioners, whereas shippers can be amply protected by awards of reparation."

In addition to the increased wages and the higher material costs, the petition lists a third factor contributing to the "critical situation"—the decline in traffic and revenues with freight rates still at pre-war levels and passenger fares only slightly higher than before the war. "With costs going up and volume of traffic and revenues going down," it says, "the railroads have passed the point where it is possible to continue to meet the need for adequate and efficient transportation with rates at present pre-war levels."

The year 1945 is called "one of great significance" in that it brought a halt to the upward trend of traffic which had prevailed since the beginning of the war. With the return of normal conditions, it is expected also that other favorable wartime factors will fail the railroads. These include the unusual volume of high-rated traffic arising from the war, the intensive utilization of equipment, and the heavy volume of military and naval passenger business. From such developments, as the petition put it, there emerges "the naked fact that railroad rates are out of line with other elements of our economy and that something approaching pre-war relationships must be restored if petitioners are to continue to provide the public with the adequate transportation contemplated by law."

Volume Is Adequate—Pointing out that 1946 traffic, though below that of the war years, will be at a "high level" as contrasted with anything experienced prior to World War II, the petition asserts that "there is no reason from the standpoint of traffic volume why the railroads should be confronted with financial disaster." It adds: "The difficulty lies elsewhere. It is to be found in the fact that, in a world of greatly increased wages and prices, freight rates remain on a pre-war level."

A tabulation shows that the operating results to be expected for 1946 under present rates would be a net railway operating income of only $75,000,000 and a deficit in net income of $345,000,000. Meanwhile, it is estimated that if the proposed rates are made effective on May 15, this year's net railway operating income would be $605,000,000 and the net income $185,000,000. At the same time it is contended that even such a granting of the full relief sought would still leave 1946 earnings "grossly inadequate" for "an annual net railway operating income of less than $1,000,000,000 is clearly insufficient to maintain the national system of railways in a sound economic condition."

"At this time," the petition goes on, "adequate railway earnings are of even greater importance than in more normal periods. There is now an extraordinary need for substantial expenditures by the railroads to overcome the deferred maintenance which has accumulated in war years, and there is also need for expenditures to provide modernized equipment and facilities, if the railroads are to give the safe, adequate, economical, and efficient service contemplated by the National Transportation Policy."

The proposed increases would apply to both interstate and intrastate rates and charges, with corresponding increases in joint rail-and-water rates and rail-and-truck rates. The limitations and qualifications of the general increase of 25 per cent are designed to avoid undue disruption of competitive relationships. In the latter connection, it is further stated that if the petition is granted the railroads "will proceed with due diligence to make such reasonable readjustments in the resulting rates and charges as commercial and traffic conditions may require."

Paul Porter, administrator of the Office of Price Administration, stated on April 16 that the required 30-day notice had been filed by the railroads with O. P. A. on the 15th. He added that the price agency was studying financial data submitted by the railroads, and it will "examine effects of the proposed increase on the cost of living."

"Obviously," Mr. Porter's statement continued, "such a large increase in rates would result in substantial increases in the prices of some products, shipping costs of which are a major factor. Our studies will reveal the extent to which prices would be affected by the increase, which the railroads estimate would add $625,000,000 to their revenue in the remaining months of 1946.

"O. P. A. is authorized to intervene in such rate increase cases when the increases would have inflationary results or would disrupt the national stabilization policies.

"In the past, O. P. A. has been instrumental in averting costly freight rate increases. Suspension of previous freight rate increases in the spring of 1943 for six months beginning May 15, 1943, and subsequent extensions, saved the government and other shippers during the war an estimated $325,000,000 annually."

Non-Ops Demand 14 Cents More

The fifteen non-operating railway labor unions on April 15 served notice on all United States railroads demanding a further increase in wages of 14 cents an hour, in addition to the 16-cent raise recently awarded by an arbitration board. According to a statement by B. M. Jewell, president of the Railway Employees department of the American Federation of Labor, the additional wage increase of 14 cents an hour is required to compensate the non-operating employees for "gross inequities" that have arisen during recent years. If the cost to the carriers is computed on the same basis as that used by them in connection with the recent 16-cent award, the annual increase in payroll expense, including taxes, that would result if the new demands were granted in full, would be about $324 million.

March Operating Revenues 20.9 Per Cent Under 1945

From preliminary reports of Class I railroads representing 81.3 per cent of total operating revenues, the Association of American Railroads has estimated that the March gross amounted to $522,978,313, a decrease of 20.9 per cent below the $661,362,123 reported for the same 1945 month.

Estimated March freight revenues were $390,043,806 compared with $505,335,858, a decrease of 22.8 per cent. Estimated passenger revenues were $93,988,657 compared to $108,501,173, a decrease of 13.4 per cent.

L. St. L. Pendred Retires

Loughnan St. Lawrence Pendred, who had been editor of "The Engineer" (London, Eng.) since 1905, retired on April 1. During the term of his editorship, in which he succeeded his father, Mr. Pendred had visited this country and was well-known in engineering circles here. He has been succeeded by his son, Benjamin Pendred, who has been a member of the staff since 1931.

British Railway Plans Track and Station Rejuvenation

During 1946 nearly 579 miles of London & North Eastern lines are to be completely or partially renewed. The work will include the laying of an additional 20 miles of flat bottom track.

At the same time over 300 passenger and freight stations, and other buildings are to be repainted. Roofing glass removed soon after the outbreak of war as a safety measure is to go back and the work of restoration has already been started at King's Cross (London) and Edinburgh (Waverley). It has been estimated that repainting work alone will cost in the neighborhood of £250,000.

N. Y. C. Plans New "Pacemaker" L. C. L. Service

A new "Pacemaker" freight service, moving l. c. l. freight on passenger train schedules, will be inaugurated next month by the New York Central in what the announcement calls the "first step in a program establishing unexcelled postwar freight service for shippers."

Equipped with specially built cars, the "Pacemaker" service will operate dusk-to-dawn trains, daily except Sundays and holidays, in both directions between New York and the Niagara Frontier, where connections with fast freight trains to and from other points on the N. Y. C. will be made.

The trains will have an authorized speed limit of 65 m. p. h. with 75 cars or less and will cover the 429 miles between New York and Buffalo, including stops to pick up and deliver cars at Albany, Utica, Syracuse and Rochester, in 10 hrs. 50 min. A pool of 425 cars has been made available for the inauguration of the service, and an additional 575 cars will be added to the pool as the service expands. All 1,000 cars

were built by Despatch Shops, Inc., East Rochester, N. Y., in 1945.

The cars in the "Pacemaker" service will bear distinctive colors to make up trains of harmonious design, with each car having the added practicality of being quickly distinguishable when in yard movements. The upper halves of the cars and the doors will be painted vermillion red and the lower halves dark gray. Roofs, underframes and trucks will be painted black and all lettering will be white. Motive power will be furnished by Mohawk L-4 type locomotives.

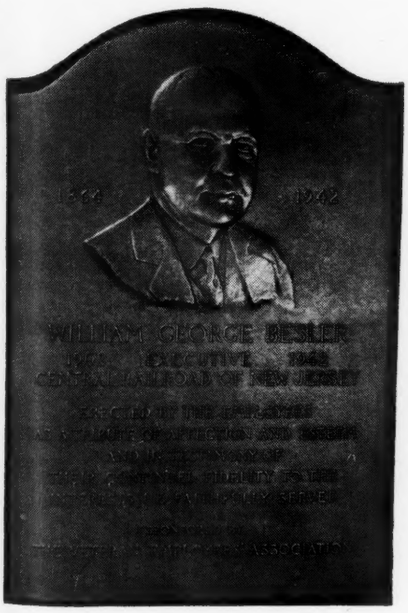
Court Names Monon Trustees

Named to take charge of the Chicago, Indianapolis & Louisville for a maximum period of ten years, during which they are to endeavor to sell control of the road to other carriers, three stock trustees have been appointed by Federal Judge Michael L. Igoe at Chicago. They are Arthur T. Leonard, senior vice-president of the City National Bank of Chicago; Homer J. Livingston, executive vice-president of the First National Bank of Chicago, and John E. Dwyer, Chicago manager of Otis & Co. Messrs. Leonard and Dwyer were both reorganization managers of the Monon while it was in court.

Judge Igoe also approved a recommendation of the Interstate Commerce Commission that the trustees seek to interest some major railroad in a traffic arrangement with the Monon. At the same time, the court set April 24 for a hearing for turning over the railroad to the trustees on May 1, at which time the case would be taken from jurisdiction of the federal court.

Plaque to W. G. Besler Unveiled by C. N. J.

A plaque dedicated to the memory of William G. Besler, former president and board chairman of the Central of New Jersey, was unveiled at ceremonies held on March 30 at the Jersey City terminal. Emblazoned on the plaque are a silhouette in bas relief of Mr. Besler, the dates of his birth and death, and the following: "Erected by the employees as a tribute of affection and esteem and in testimony of their continued fidelity to the interests he faithfully served."



The memorial plaque to William G. Besler erected by the employees of the Central of New Jersey

Freight Car Loadings

Loadings of revenue freight for the week ended April 13 totaled 649,194 cars, the Association of American Railroads announced on April 20. This was an increase of 4,531 cars or 0.7 per cent above the previous week, a decrease of 197,819 cars or 23.4 per cent under the corresponding week last year, and a decrease of 149,489 cars or 18.7 per cent below the comparable 1944 week.

Loading of revenue freight for the week ended April 6 totaled 644,663 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, April 6

District	1946	1945	1944
Eastern	138,975	151,915	153,324
Allegheny	132,889	167,477	176,877
Pocahontas	15,506	39,839	53,164
Southern	113,478	118,286	124,423
Northwestern	78,062	98,224	89,169
Central Western	106,371	121,258	118,933
Southwestern	59,382	68,673	72,095
Total Western Districts	243,815	288,155	280,197
Total All Roads	644,663	765,672	787,985
Commodities:			
Grain and grain products	37,637	46,341	40,120
Livestock	15,982	14,574	14,179
Coal	33,901	118,252	167,312
Coke	8,949	13,443	14,953
Forest products	42,666	39,088	45,737
Ore	9,607	35,437	21,310
Merchandise l.c.l.	128,314	109,067	108,604
Miscellaneous	367,607	389,470	375,770
April 6	644,663	765,672	787,985
March 30	809,142	836,000	786,186
March 23	804,606	816,741	777,578
March 16	799,882	816,556	785,195
March 9	786,202	767,055	780,265
Cumulative total, 14 weeks	10,377,222	10,843,902	11,016,838

In Canada.—Carloadings for the week ended April 6 totaled 67,675 cars as compared with 69,480 for the previous week and 67,925 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

Totals for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
April 6, 1946	67,675	37,052
April 7, 1945	67,925	39,448
Cumulative Totals for Canada:		
April 6, 1946	930,751	495,888
April 7, 1945	914,011	520,779

Santa Fe Issues Book for Schoolroom Use

To answer the thousands of requests which are received each year from teachers and students throughout the country for material on railroads that will be suitable for classroom use, the Atchison, Topeka & Santa Fe has issued an illustrated, 8¼ by 10¾ pamphlet entitled "The Railroad".

Included in the booklet are a radio play for classroom use, illustrations of various types of locomotives and freight cars, and articles on what the railroads buy, how they operate, their importance to the country, railroading as a career and wartime operations of the railroads. Another section is devoted to the Santa Fe. A map of the system, illustrations of places such as Grand Canyon and Yosemite Valley which can be visited when traveling on the Santa Fe, and some historical data are included.

The booklet concludes with a railroad quiz and cross-word puzzle, and a page devoted to railroad talk, each term described being accompanied by an amusing illustration. A teacher's guide is also included. Copies are available from the offices of the Santa Fe at 80 E. Jackson Boulevard, Chicago 4, Ill.

Russians Aid the Romanian Railways

Newspaper reports, dated Bucharest March 19, indicate that the Russians have given Romania 115 locomotives and 15,000 freight cars and have rented an additional 5,536 cars to the Romanian government for two years.

Royal Engine to Be Renamed

With the approval of His Majesty the King, the London & North Eastern's locomotive No. 1671 (formerly No. 2871) "Manchester City" which has been allocated to haul the Royal train, is to be renamed "Royal Sovereign." The locomotive has already been repainted the L. N. E. R. pre-war apple green livery.

Pacific Railway Club Elects Officers

The following were elected officers of Pacific Railway Club at its twenty-ninth annual meeting and banquet in the Gold Ballroom of the Palace Hotel, San Francisco, March 28:

President, W. T. Richards, division engineer, Western Pacific; vice-presidents, H. E. Jordan, assistant to vice-president Key System; H. R. Fegley, assistant to general manager, Western Pacific; George C. Fish, superintendent, Union Pacific; Treasurer, R. D. Pierson, regional engineer, Santa Fe. William S. Wollner, who has been secretary during the club's entire 29 years, will continue in that office. Guest of honor and principal speaker at the banquet was L. Harold Anderson, president of the California Railroad Commission, who spoke on California's Future Depends Upon Transportation.

Would Delay Building Line in Canada's Peace River Area

Transport Minister Lionel Chevrier said recently in the Commons at Ottawa that surveys made by engineers showed the building of a railway outlet from the Peace River District to the Pacific coast would not be practical until traffic from the area averages at least 1,000,000 tons annually.

Mr. Chevrier spoke on a resolution urging the government to open the Peace River area in Northern British Columbia and Alberta through the construction of a railway line to the coast.

Five surveys have been made on the possibilities of building such a line, said Mr. Chevrier. The last one was made in

1945 and like earlier ones it suggested the line should not be built until there was sufficient traffic to warrant building of the project. It was estimated traffic now was about 250,000 tons annually.

One of the surveys estimated cost of the project at $80,000,000, said Mr. Chevrier, who spoke after the resolution had been supported by practically all British Columbia and Alberta members in the Commons.

The transport minister agreed the Peace River area was a potential reservoir of natural resources, but pointed out that railway economists believed development of areas should precede the building of railways.

Russia Uses a Railway for Dominance in Manchuria

How control of the Chinese Changchun Railway will give Russia a powerful grip over the economic life of Manchuria, is suggested by the accompanying map. Under a Russo-Chinese agreement made in August, 1945, the railroad from Manchouli to Suifenho, and from Harbin to Dairen will be run "jointly" by the Chinese and Russians; although actual operation is in the hands of the Russians. While the president and half of the board of directors will be Chinese, the general manager is to be a Russian. This general manager is the chief executive of the line between meetings of the board, and at all times he controls employment and discharge of all personnel.

A. T. Steele explains in the New York Herald Tribune that the Chinese Changchun Railway includes the main lines of the Chinese Eastern (Manchouli-Suifenho and Harbin-Changchun); and the main line of the South Manchuria Railway (Changchun-Dairen). Since their invasion of Manchuria, the Russians have reconverted the Manchouli-Suifenho line to the standard Russian 5-foot gage. This gives them a main line from Vladivostok to Moscow through Manchuria, short-circuiting the Russian line around the northern border of Manchuria. The Harbin-Dairen line and all other Manchurian railways remain on Japanese gage.

All other railroads in Manchuria, including a number of military spurs built by the Japanese (a total of about 5,500 miles), are supposed to be controlled entirely by China when the Red army leaves. However, as can be seen from the map, most of these, with the exception of the Peiping Mukden connection, are merely tributaries to the Chinese Changchun.

During their occupation the Russians have apparently stripped Manchuria of a large number of factories, and probably some railway equipment. Removal of railway equipment is restricted by the difference in Japanese and Russian gages. Mr. Steele reports that about 17,000 cars and 700 usable locomotives are available for main line service, with an additional 300 locomotives in bad order.

At present it is not clear to what extent the joint control agreement has gone into effect on the Chinese Changchun Railway. However, it appears that even when the Red army has left Manchuria, Russia will be able to dominate the area through its operation of the railway.

Cost "Squeeze" on Railroads Discussed by C. D. Young

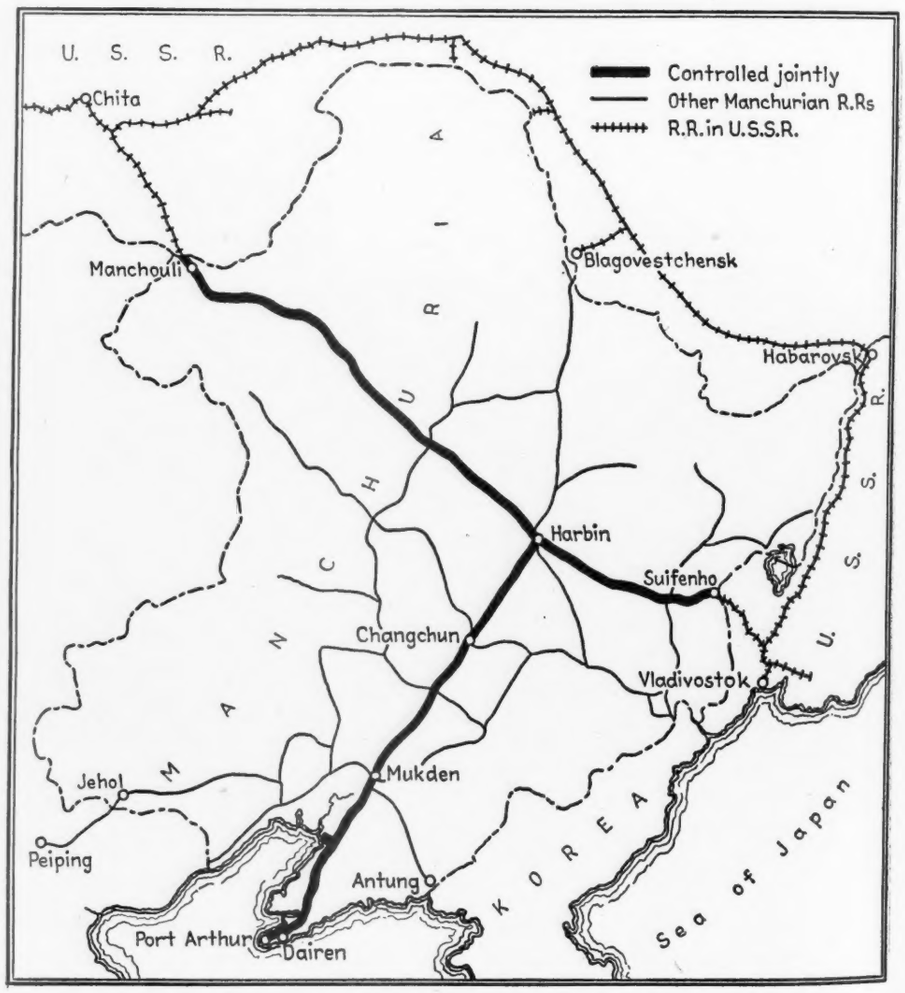
The large amount of traffic handled by the railroads during World War II enabled them to operate without increasing freight rates, but that volume is tapering off to a considerably lower level and increases in freight rates are now necessary, Brigadier General Charles D. Young, vice-president of the Pennsylvania, told 1,000 members and guests of the Western Railway Club at a dinner meeting, April 15, at Chicago.

The railroads, Gen. Young said, were able to absorb a 27 per cent increase in wages and a 30 per cent increase in material costs during the war, but the revenue secured from present and future traffic will not be sufficient to meet the one billion dollars added to railroad costs by recent wage increases and rising material prices.

At the present time, he explained, the cost of ordinary maintenance and new construction is further increased by interruptions in repair and building programs because of the unreliability of deliveries, which hold up the employment of more efficient equipment and tie up money during its construction. These indirect costs, the speaker pointed out, are in addition to the increases in wages and material costs.

In discussing the material situation on the railroads, Gen. Young said:

"The tightest bottleneck in railroad maintenance and construction materials will be forest products. You are well aware, I know, of the present difficulties which the railroads, private car lines, car and locomotive builders are experiencing in obtaining adequate supplies of wood products. We believe this situation will become more acute before our efforts to institute remedies can be fully effective. From the information available to us, it appears that the stocks of car lumber and switch timber are seriously depleted in most parts of the country. Crosstie supply is not satisfactory. There is such a high degree of unanimity among industry people that price disparities are the root of the railroad lumber difficulties that we have come to believe this is a very important factor in the problem, though by no means the only factor. There simply is not enough lumber to meet all demands and the situation is made more



"Joint" control of these two railroad lines will give Russia a stranglehold on Manchurian transportation.

difficult by maldistribution and black market operations. It is correct to say that Office of Defense Transportation and Civilian Production Administration are pressing for a solution of the railroad lumber problem and we confidently expect action in the near future which will begin to correct the present state of affairs to the end that railroad lumber orders can be placed with producers.

"The railroads' chances of obtaining fabricated items and miscellaneous manufactured items should improve as more and more of the work stoppages in fabricating plants are adjusted. As you are aware, this has been a knotty problem right up to the present time. Many steel fabricators have been tied to contracts which contain no escalator clauses whereby additional payments for labor can be passed on to purchasers. With the increase in steel prices, many of these employers have been in a very tight squeeze. Progress is being made in the adjustment of these wage disputes and there should be a gradual improvement in the supply of fabricated and manufactured items.

"Present strikes in fabricating plants will be adjusted in due course under the present wage-price policy. I am optimistic enough to expect that when these adjustments are made, we can look forward to uninterrupted production for at least a year. If, however, the price line is permitted to yield to too great an extent, so that living costs for workers increase materially, we can expect additional outbreaks of labor disputes over wages continuously."

Hudson & Manhattan Stockholders Elect New Board

Robert A. W. Carleton, president of the Carleton Company, Inc., New York, has been elected president and chairman of the board of the Hudson & Manhattan to succeed Walter F. Brown. An entirely new board of directors and several new officers also were elected as the result of the victory at the yearly meeting of a group of stockholders who cast 322,532 votes for the new board, compared with the 135,889 votes for the re-election of the former management's nominees. The elections ended a controversy which had reached a climax on March 15 when Mr. Carleton issued a statement in which he said the directors then in office had a record of "dismal failure."

Henry E. Peelle and Jerome H. Doran were elected vice-presidents. Directors elected in addition to Mr. Carleton and Mr. Peelle were John F. Krose, William J. McEnery, David S. Fischman, Ferdinand J. Sieghardt, William J. Casey, Benjamin H. Roth, John Read and Asa W. Jennings.

N. & W.'s New Coach Streamliner Schedule Announced

Extensive changes of Norfolk & Western passenger schedules will accompany the inauguration of the railway's new, all-coach, streamlined luxury train, tentatively set for April 28.

The principal improvement in service will be in the operation of the streamliner, Nos. 25 and 26, which will make the run between Norfolk, Va., and Cincinnati, Ohio, in 15 hours and 45 minutes—the fastest schedule ever operated by the N. & W. Westbound, the new train will leave Norfolk at 7:30 a. m. and arrive in Cincinnati at 11:15 p. m. Eastbound, it will leave Cincinnati at 8:00 a. m. and arrive in Norfolk at 11:45 p. m.

Other changes include the reduction of the running time of the "Pocahontas" (Trains 3 and 4) between Norfolk and Cincinnati by an hour and 40 minutes, and additional passenger train service over the Atlantic Coast Line between Petersburg, Va., and Richmond, resulting in better connections for through passengers between N. & W. points and Richmond. The present sleeping car line between Bluefield, W. Va., and New York will have its southern terminal at Roanoke, Va., and new sleeping car service will be provided between Williamson, W. Va., and New York.

C. & N. W. Christens Modernized 4-8-4 Steam Locomotive

The Chicago & North Western recently christened with elaborate ceremonies the first one of its Class-H 4-8-4 type steam locomotives to be turned out of the Chicago shops of this road with a new cast-steel bedframe, lightweight pistons and rods, roller-bearing axles, extensive boiler work, cantilever-supported cab, and many other improvements, including driving wheels cross-balanced for speeds of 90 miles an hour on 110-lb. rail.

The christening took place just outside the Chicago shops and, after appropriate remarks by Vice-President L. L. White and Shop Superintendent H. H. Magill, who presided, a bottle of champagne was broken against the front coupler of the locomotive by two veteran shop employees, Agnor Olson, machinist and J. W. Sandey, boiler-maker. Both of these men started work on the North Western as apprentices in 1889 and have the remarkable record of having served 57 years without reportable accident or extensive leave of absence due to sickness or other cause.

Following the christening ceremonies the locomotive left on its break-in runs preparatory to being placed in fast passenger or freight service, on the North Western line between Chicago and Omaha, Neb.

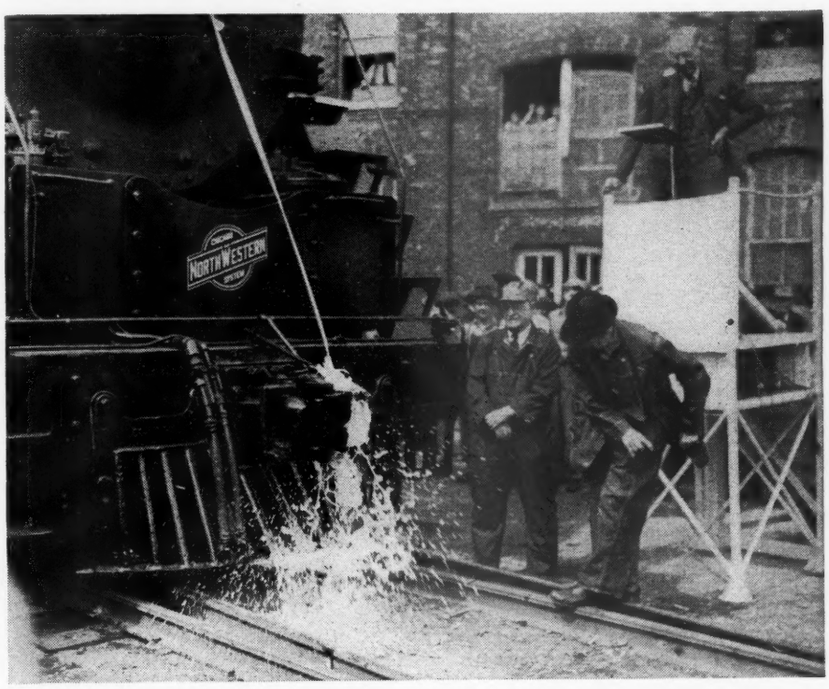
Electrical Engineers Schedule Convention

The American Institute of Electrical Engineers summer convention will be held June 24 to 28 at Hotel Statler, Detroit, Mich. In addition to the technical program, inspection trips are being organized. The technical program will include such subjects as: Generation, transmission, and distribution of power, automatic stations, transportation, protective devices, and safety. Inspection trips planned include the Ford Motor Company Rouge Plant; Edison Institute Museum, Dearborn, Michigan; and the United States Rubber Company main plant, Detroit.

Midwest to Gulf Freight Time Cut 24 hr. by Rock Island

A new high-speed "Rocket" freight service between Minneapolis, Minn., and St. Paul and the Texas gulf ports, cutting 24-hr. from previous schedules, was inaugurated on April 4, by the Chicago, Rock Island & Pacific. At the same time a similar reduction in the running time of the "Rocket" freights operating between Chicago and these Texas cities was made effective. Diesel-electric locomotives rated at 5400-hp. are assigned to these freight trains.

Under the new schedules these trains leave St. Paul yards at 10:30 p.m. and Chicago at 11 p.m. The Chicago and St. Paul sections are consolidated at Kansas



C. & N. W. veteran shop employees, Machinist Agnor Olson (left) and Boilermaker J. W. Sandey (right) christening Class-H locomotive which has just been thoroughly overhauled and modernized at the Chicago shops of this road

City, Mo., departing at 6 p.m. the first day, Ft. Worth, Tex., at 6:30 p.m. the second day and arriving at Houston at 6:30 a.m. the third day and at Galveston three hours later. Northbound the "Rocket" freight leaves Galveston at 2 a.m. the first day, Houston, at 6 a.m., and Ft. Worth at 9 p.m. Arrival at Kansas City is scheduled for 8:30 p.m. the second day, St. Paul at 9:30 p.m. the third day, and Chicago at 12:30 p.m. the third day.

Wage Increase for Employees of Canadian Roads' Hotels

The National War Labour Board recently announced at Ottawa approval of wage increases for employees of certain hotels operated by the Canadian National and the Canadian Pacific. In making the announcement the board called attention to reports which appear to have been current in some quarters, that the board had previously denied wage applications made on behalf of these employees. "The board," the announcement went on, "makes it clear that at no time had it denied these applications, but had merely requested that additional evidence in support of the applications be furnished. After this information had been supplied to the board it was found possible to arrive at the decision given out today."

The award approved an increase of $12.48 per month for the hotel employees involved. The effective date of the increase will be February 15, 1946, and the board has reserved for further consideration its decision as to the further degree of retroactivity which had been asked.

New Sunset Limited To Be Luxury-Type Train

The Southern Pacific has announced that the new Sunset Limited, which is to be placed on a schedule of approximately 48-hr. between New Orleans, La., and Los Angeles, Cal., on June 2 (*Railway Age*, April 6), will consist of through deluxe coaches, divided coach, coffee shop dining car for coach passengers, regular dining car, full lounge car and standard sleeping cars. An additional standard sleeper will operate on this train between Los Angeles and San Antonio, Tex. Tourist sleeping cars will be handled on the Argonaut between New Orleans and San Francisco, but not on the Sunset Limited.

When the new Sunset is placed in service two of the deluxe coaches will be of lightweight-streamlined design, while similar cars will be substituted for other cars in the train, which during the initial period of operation will be of the conventional type, as rapidly as they can be secured. Eventually it is planned to make the complete Sunset Limited train a streamliner, similar to the new Golden State and San Francisco Overland Limiteds, which also go on faster schedules on June 2.

Equipment on Order

Class I railroads on April 1 had 40,217 new freight cars on order, according to the Association of American Railroads. On the same date last year, they had 36,272 on order.

This year's April total included 13,721 hopper (including 3,575 covered hoppers), 5,121 gondolas, 1,163 flat, 13,576 plain box, 4,968 automobile, 1,568 refrigerator and 100 miscellaneous cars.

The Class I roads also had 494 locomotives on order April 1, compared with 564 on the same day in 1945. The former total included 82 steam, six electric and 406 Diesel-electric locomotives, compared with 138 steam, two electric and 424 Diesel-electric one year earlier.

Class I roads put 8,006 freight cars in service in the first three months in 1946, compared with 12,993 in the same period last year. Those installed in the first three months this year included 2,277 hopper (including 55 covered hopper), 1,545 gondolas, four refrigerator, 55 flat, 835 automobile box and 3,290 plain box freight cars.

They also put 31 new locomotives in service in the first three months this year, of which 20 were steam and 11 Diesel-electric. New locomotives installed in the same period last year totaled 136, of which 19 were steam and 117 Diesel.

Location of C. N. Offices in New York Changed

The Canadian National recently moved its passenger and public relations offices in New York from 53rd street and Fifth avenue to the south mezzanine of the International building, Rockefeller Center. The street address is 630 Fifth avenue.

Airport "Authority" for N. Y.

New York City's airports—La Guardia Field and the Idlewild airport, still under construction—are to be turned over to an independent "authority." Mayor O'Dwyer has appointed a three-man board to administer the authority, which will take over the airports about October 1. The members, who receive no salary, are Harry F. Guggenheim, James H. Doolittle, and Laurence S. Rockefeller. The authority is authorized to issue $250,000,000 in 3½ per cent bonds, callable at 105; plus the additional amount of bonds needed to refund the 250 million; and an additional $50 million on 5-year notes. The authority may pledge any portion of its revenue and make agreements about its operating procedure as conditions of its bond issues, income from which is non-taxable.

Under the enabling legislation for this authority, which was signed by Governor Dewey early this month, the city of New York may turn over to the authority, with or without compensation, any airports, equipment, or other property, and may condemn property for this purpose. The authority may also condemn property for its own use. If, at any time after five years from the date of the original board's appointment, all outstanding debt has been paid up, or, it being in default, a settlement has been made with the debtors; the authority will cease to exist. If this should happen all property and rights of the authority will revert to the city of New York.

The authority, which is intended to put New York's airports on a self-supporting basis, will devote its first energies to studying improvements at La Guardia Field, and trimming down the planned 25 million dollar administration building and arcade at unfinished Idlewild. No statement has yet been made as to what amount, if any, will be paid by the authority to the city of New York for the use of the two airports and other properties which may be turned over to it; however, New York's ex-mayor La Guardia, a vigorous opponent of the authority scheme, asserts that it may be city's intention to spend the funds already appropriated for the airports and give them away to the authority when it takes over in October. The city's investment so far has been estimated as $47 million for La Guardia, and $70 million for Idlewild; and the total cost of Idlewild is put at about $200 million.

Court Upholds C. P. R. in Land Dispute with C. N. R.

The Canadian Pacific has been adjudged by the Superior Court at Montreal to be the proprietor of a tract of land in the town of Mount Royal, rights to which were claimed by the Canadian National in virtue of an act of expropriation executed under provisions of the company's special expropriation law, and designed in this instance to permit the C. N. R. to construct on the C. P. R. land a spur track.

The court declared permanent an interim order of injunction issued against the C. N. R. last July 22, ordered the C. N. R. to demolish and remove stakes and all other works built or installed on the property, and to restore it to its previous condition.

The court also declared null and void "all purported expropriation proceedings" made by the C. N. R. with respect to the property, and levied the costs of the action against the C. N. R.

"The case," said the court, "is one of general and practical importance because of the C. N. R.'s main contentions are well founded, that company has a great advantage over the C. P. R. in the matter of the establishment of spurs or branch lines both with respect to the approval required and to the method of acquiring the necessary land, as which the C. P. R. is admittedly subject to the provisions of the Railway Act. . . .

"Dealing with the 1929 amendments of Section 17 of the Canadian National Railway Act, read in conjunction with the company's expropriation act, the court cannot bring itself to conclude that this amendment was intended to have, or should be interpreted as having, such a sweeping effect as that for which the C. N. R. contends. This contention would imply that the president, or, say, vice-president, by the mere deposit of a plan in the appropriate registry office, could acquire for the company the possession and ownership of any land, to whomsoever it belonged and for whatever purpose it was being used, without obtaining authorization from anyone, and without the company putting it, or even intending to put it, to any particular use. . . .

"On the whole matter, the court reaches the following conclusions: Prior to and on July 18, 1945, the C. P. R. was in possession as owner of the tract of land in question. The special procedure authorized by Section 21 of the C. N. R. Act, requires, as a condition precedent, the approval of Parliament of the expenditures necessary for the particular line, branch or extension (such as the C. N. R. proposed to construct

across the C. P. R. property). No such previous and specific approval had been given by Parliament when the C. N. R.'s expropriation plan was deposited. In consequence, the deposit of the said plan was irregular, invalid and illegal. In view of section 193 of the Railway Act, the only other procedure by which the C. N. R. could legally obtain possession of the land in question required the preliminary approval of the Board of Transport Commissioners. No such approval was obtained. In view of the foregoing, the C. P. R. remained, after deposit of the C. N. R. expropriation plan, and still remains, in possession as proprietor of the said tract of land. . . ."

No Fatalities During War from Transport of Explosives

Railroads handled 50,000,000 tons of high explosives for military purposes as well as great quantities of poison gas during the recent World War without a person being killed, even though in one month alone in 1945, the quantity of military explosives handled exceeded the tonnage handled during the entire period of the first World War. This was revealed in the annual report for 1945 of the Bureau of Explosives of the Association of American Railroads.

Moreover, the report added, since 1938 approximately 1,800,000 tons of commercial explosives have been handled with no loss of life due to their transportation. "During World War II very large quantitiees of poison gas were transported by rail freight in accordance with the regulations promulgated by the Bureau of Explosives," it said. "Nearly all of these shipments were handled as carload freight, and on two occasions cars were involved in derailments. There were no injuries or deaths resulting from the shipments of poison gas . . . a splendid record possible as a result of the diligence of the shippers and carriers in loading and handling this freight in accordance with the regulations.

"From January 1, 1940, to August 1, 1946, eleven and one half million tons of artillery and mortar ammunition, six million tons of bombs and rockets and nearly one-half million tons of explosive mines, depth charges, demolition charges, grenades and pyrotechnics were produced in the United States. The above figures do not include small arms ammunition of which nearly thirty-nine billion rounds were produced."

Because it was necessary to move much of this material between manufacturing plants and storage points and from storage points to points of export, the actual tonnage handled by the railroads greatly exceeded the tonnage produced, the report pointed out.

In the six-year period from 1940 to 1945 inclusive, shipments by rail of explosives for both military and commercial use amounted to 65,296,983 tons or 1,302,623 carloads. In 1940 they amounted to 331,621 tons or 17,363 carloads but increased each year until they finally reached a peak in 1944 of 18,862,085 tons or 433,965 carloads. Shipments in 1945 totaled 18,673,542 tons or 405,565 carloads. The report called attention to the fact, however, that whereas the average load of military explosives per car was 13,600 pounds in 1940, it increased to 86,000 pounds in 1944 and 92,500 pounds in 1945.

The Bureau of Explosives said the quantity of "dangerous articles other than explosives" handled in 1945 was far greater than in normal times and added:

"Shipment of such materials will undoubtedly increase and continue through the period of reconversion. Many dangerous chemicals which are new to commerce and which are now used in the manufacture of plastics and synthetic materials have been shipped and will continue to be handled."

There were seven accidents in 1945 in connection with the transportation of explosive materials, six of which involved fireworks and resulted in no personal injury. The other accident occurred when a package containing a loaded shot-gun was being handled by an express employee, and resulted in his death. This was the first fatality experienced since 1939 in connection with this traffic. The property loss resulting from these accidents was $10,794.

In connection with the transportation of great quantities of dangerous articles, other than explosives, handled by the railroads in 1945, no fatalities resulted from the 1,036 accidents reported. Twenty persons were injured. Of the total, gasoline accounted for 223 accidents; electrical storage batteries, 189; crude oil, 99; sulphuric acid, 95; strike-anywhere matches, 52; and nitric acid, 47. Property damage in connection with fires and explosives resulting from such accidents totaled $600,090, compared with $568,283 in 1944, when there were 990 accidents and two fatalities.

Club Meetings

The Toronto Railway Club will hold its regular monthly meeting on April 22, 8 p. m., at the Royal York hotel in Toronto. C. A. Stephenson, technical advisor to Sperry Rail Service, Hoboken, N. J., will speak on "Non-Destructive Testing as Applied to Railroads."

E. G. Plowman, vice-president, traffic, United States Steel Corporation, will address the Noon Day Forum luncheon of the Traffic Club of New York on April 25 at the Biltmore hotel at 12:30 p. m. His subject will be "Timely Traffic Topics."

The annual dinner of Pittsburgh's Traffic Club will be held April 30 in the William Penn hotel, Pittsburgh, at 6:30 p. m. Gustav Metzman, president of the New York Central, will be the speaker.

The New York division of Railroad Enthusiasts has scheduled a meeting for April 24 in room 5928, Grand Central Terminal, at 7:45 p. m. Current problems of the Central of New Jersey will be discussed by E. J. Harrington, C. N. J. lawyer.

A list of current publications of interest to the transportation industry will be found on page 855.

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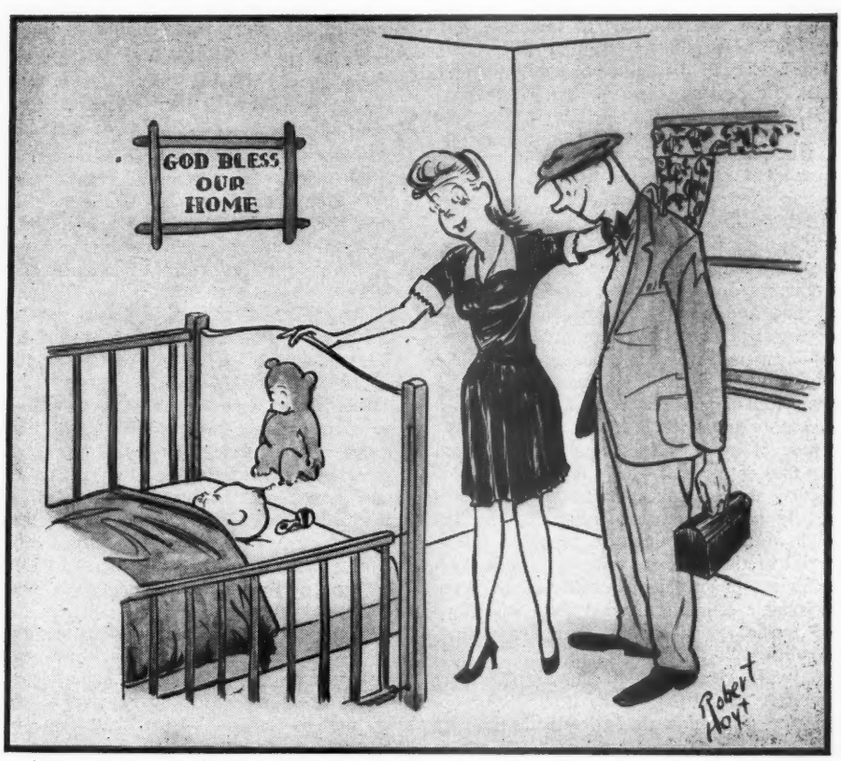


"Just think—some day he may be boss of the P. A. C. or U. M. W. and tell everybody where to head in"

With the Government Agencies

Suggests C. A. A. Fees for Aids to Aviation

House committee says charges should be levied for special services

The House appropriations committee, in its report to the House on H. R. 6056, the appropriation bill for the State, Commerce and Justice departments for the fiscal year 1947, has suggested that the Civil Aeronautics Administration initiate a fee for "specialized services rendered to individuals, groups and corporations." An appropriation of $63,450,000 has been recommended for the C. A. A.

That total includes $18,000,000, an increase of $5,215,000 over the current year's appropriations, for the establishment of air navigation facilities. Among other items are $32,000,000 for maintenance and operation of air navigation facilities; $750,000 for technical development; $6,200,000 for safety regulation activities; $250,000 for airport advisory service and $2,053,000 for operation and maintenance of aircraft.

According to the testimony of William A. M. Burden, assistant secretary of commerce, who is in charge of civil aeronautics activities in the department, there will be an estimated 925 airline planes in service in 1947, as compared to 440 in service in 1941. He pointed out that the planes will be larger than the present types and that the seating capacity by the end of 1947 will be 49,700.

Burden Fears "Complications"—"The matter of charging for airways facilities is an extremely complicated one," Mr. Burden added. "If the precedent of furnishing similar facilities, free of direct charge in other fields such as rivers and harbors, highways and lighthouse service is disregarded and a direct charge is made for airways, a very complex administrative problem is involved, since airways, like highways, are used by many classes of traffic. To devise a system which would equitably apportion costs between this multitude of users is a complicated task, and in the opinion of the Civil Aeronautics Board and ourselves, it cannot be intelligently performed until sufficient time has elapsed to determine the probable future trend of the various classes of traffic with sufficient exactitude to enable us to make a reliable estimate of what the proportions of traffic are likely to be under normal conditions."

Mr. Burden said that the air transport industry would pay "some $200,000,000" in income taxes for the calendar year 1945 and that an additional $250,000,000 would be realized from the transportation tax on air travel and air express. He added that the "profit" on the Post Office Department's air-mail operations totaled $50,000,000. The witness told the committee that a report will be prepared, in collaboration with the C. A. B., as to a recommended policy relative to making charges and as to the most reasonable method of imposing charges for the use of airway facilities.

Airways Cost $36 Million—"The total cost of maintaining the airways for the fiscal year 1947 is $36,004,000, as compared to the net earnings after taxes of the air transport industry in the 12 months ending November 30, 1945, of $16,300,000," he continued. "If 50 per cent of the cost of operating airways were to be borne by the carriers, it would probably be necessary to increase their mail pay in order to effect it, thus merely transferring the cost from one department to another. Moreover, since approximately 40 to 50 per cent of the carriers' gross income is paid to the government in income taxes, only about one half of any charge imposed for the use of these facilities would in reality be a net return to the government."

Mr. Burden also reported that the federal gasoline tax paid by aircraft users was 1½ cents per gallon and that the state taxes were from two to seven cents per gallon. He added that scheduled airlines suffered 247 fatalities, including crews, during the 1942-1945 period and that as of December 31, 1945, the C. A. A. had a total of 10,571 employees. The committee report, incidentally, showed that C. A. A. had one employee for every three planes certified for air-worthiness.

March Employment

Railroad employment increased 0.11 per cent—from 1,365,415 to 1,366,930—during the one-month period from mid-February to mid-March, but decreased 3.92 per cent below the total for March, 1945, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1935-39 average, was 137.3 for March, as compared with 137.1 for the previous month and 143 for March, 1945.

March employment was above that of the corresponding month in 1945 in two groups, the increases being 1.38 per cent in executives, officials and staff assistants and 6.5 per cent in transportation, other than train, engine and yard. The decline in other groups ranged from 1.32 per cent in professional, clerical and general to 13.1 per cent in the maintenance of way and structures category.

As compared with the previous month, there were declines in March in three employment groups, the range being from 0.08 per cent for yardmasters, switch-tenders and hostlers to 1.2 per cent for train and engine service. The increases varied from 0.01 per cent in professional, clerical and general to 3.61 per cent in transportation, other than train, engine and yard.

Modified Revamp Bill Reported to Senate

Applies to large roads now in reorganization proceedings under section 77

Following through from its recent hearings on the measure, the Senate committee on interstate commerce last week reported favorably to the Senate a modified version of S. 1253, the bill introduced last summer by the committee's chairman, Senator Wheeler, Democrat of Montana, to implement voluntary modification of railroad financial structures. The reported bill carries out the committee's view that such procedures should be made available to railroads already undergoing reorganization as well as to those not yet in the hands of the courts, and thus it would amplify in that respect and others the provisions of the so-called McLaughlin Act of 1942, which expired November 1, 1945.

Receiverships Excepted—The application of S. 1253 to carriers already undergoing reorganization, however, is limited to roads involved in proceedings under section 77 of the Bankruptcy Act which reported for any of the calendar years 1942 to 1944 gross railway operating revenues in excess of $50,000,000. Because its reorganization proceeding is an equity receivership, the Seaboard Air Line would not be covered by the bill; while the $50,000,000-gross limitation would restrict the applicability to such systems as the Central of New Jersey, the Chicago, Rock Island & Pacific, the Denver & Rio Grande Western, the Missouri Pacific, the New York, New Haven & Hartford, the St. Louis-San Francisco, and the St. Louis Southwestern.

Reorganization plans and section 77 proceedings of the roads covered would be suspended upon enactment of the bill, and the services of trustees and their counsel discontinued within 30 days thereafter; although there is a provision whereby the courts, in their discretion, may require the carriers to retain the present trustees "in a managerial or lesser capacity." While the procedures outlined in the bill run their course, the courts would technically retain custody of the roads involved, but would be required to dismiss the section 77 proceedings upon consummation of the voluntary reorganization plans.

Generally the bill proposes to add two new sections, 20b and 20c to Part I of the Interstate Commerce Act. The former would provide procedures for voluntary readjustments by railroads not in the hands of the courts, while section 20c specifies how such procedures are to be applied to carriers already involved in section 77 proceedings.

Under section 20b any railroad desiring

(*Continued on page 838*)

Accident Attributed to Defective Brakes

Fast passenger train operated in violation of safety laws, says I. C. C.

Operation of passenger-train cars with inefficient or inoperative hand brakes, in violation of the Safety Appliance Acts, was found by the Interstate Commerce Commission to have been the cause, along with damaged air brake equipment on an engine, of a passenger train moving out of control on a descending grade, resulting in a collision with a freight that led to the injury of 10 passengers and 3 employees. The accident, which occurred January 1 near Oakland, Ky., on the Louisville & Nashville, was investigated under the supervision of Commissioner Patterson.

Oakland is 102 miles south of Louisville on a single-track section of the road's main line from the latter point to Nashville, Tenn., where trains are operated by timetable, train orders and an automatic block signal system. The collision occurred 0.54 mile south of Oakland on tangent track on a vertical curve that leads into a 1.22 per cent grade ascending for southbound trains.

The passenger train concerned, southbound No. 15, the "South Wind," operated from Chicago to Miami, Fla., consisted of a 4-6-2 type locomotive and of 7 cars owned by the Pennsylvania. While running about 65 m.p.h., the left guide yolk and left main rod of the engine "became broken," and the train stopped about 5:24 p.m. on the 1.22 per cent ascending grade, with its rear end about 0.75 miles south of the station at Oakland and 1.2 miles south of the nearest automatic signal to the north. As a result of the breakage on the engine, the air compressor and its discharge pipe to the main reservoir were damaged, causing loss of air pressure that rendered the engine and tender brakes inoperative.

As the train was standing on a grade, the engineer placed a coal pick on the rail back of a driving wheel and the conductor applied the hand brakes on the first and second cars. These measures were thought to be sufficient to hold the train, but about 5:55 p.m. it began to move backward, out of control. The engineer opened the throttle in an effort to stop, but this failed, and the train was moving about 10 m.p.h. when it collided with the southbound freight, which was following it.

The freight, No. 59, consisted of a locomotive, 61 cars and caboose. It stopped at the signal 1.2 miles back of the standing passenger train, which displayed stop-then-proceed, and stopped again about 100 ft. south of the station at Oakland, where it was flagged by the flagman of No. 15. The freight then proceeded about 2,750 ft., when it was stopped again by an emergency brake application because No. 15 was seen to be moving backward. The collision occurred immediately afterward. None of the equipment was derailed, but the rear end of the rear passenger car, an observation-lunch car, was demolished about 12 ft. Its center sill was bent and its interior was badly damaged, as was the front end of the freight engine.

When No. 15 started to move backward, the engineer and fireman were on the engine, the conductor had gone ahead to a telephone to communicate with the dispatcher, and the flagman was on the freight engine, having flagged that train.

The air brakes of No. 15 had been tested at Louisville prior to its departure, and were said to operate properly. The engine had been inspected and reported suitable for service, but it developed that an inspection on December 25, 1945, had led to a report that the left guide yolk was cracked. According to the commission report, "there was nothing disclosed in the investigation to show that repairs to the guide yolk had been made prior to the accident."

No test was made of the hand brakes on No. 15 when the train was received by the L. & N. from the Pennsylvania at Louisville, the report went on to say. Tests of the brakes made after the accident led to the following comment: "Following an emergency application, the [air] brakes of three cars remained applied in excess of 45 minutes, one released in 30 minutes, one released in 10 minutes, and one was inoperative. The brake of the car which released in 10 minutes did not apply with sufficient force to cause the brake shoes to be tight against the wheels. Tests of the hand brakes of the cars involved disclosed that the hand brake of the first car could not be applied because the brake rod fouled the body bolster. The brake shoes could not be moved closer than 1 in. from the wheels. The hand brake of the second car was inefficient because of improper adjustment of the foundation gear. When the hand brake had been operated the brake shoes at two locations were ¾ in. away from the wheels.

"The hand brake of the third car was inefficient as a result of rusted gears and a twisted chain which fouled the gear housing. When this brake was operated the brake shoes at two locations were ¾ in. away from the wheels and at the other two locations they could easily be moved away from the wheels. One spoke in the brake wheel was broken.

"The hand brake of the fourth car was inoperative because the brake chain fouled the rib of the center sill. The hand brake of the fifth car could not be applied by one man, but was applied by the full exertion of two men. After full exertion by one man the brake shoes were ⅛ in. from the wheels. The hand brake of the sixth car could not be applied without the aid of a bar and then only after 2 minutes of exertion by one man. The seventh car was so badly damaged in the accident that the hand brake could not be tested until repairs had been made. After repairs were made, the hand brake operated properly."

The cars in No. 15, the report explained, are equipped with 4-wheel roller-bearing trucks having foundation brake gear of the clasp type on all wheels. The air brake equipment consists of a D-22 control valve on each car, and a brake cylinder mounted on each side of each truck. The hand brake equipment of each car has gears adjacent to the brake wheel, which is mounted in vertical position. When actuated by the air brake system, braking pressure is applied on all wheels, but when the hand brake is operated pressure is applied on the wheels of one truck only.

Justice Department Heard on H.R. 2536

Berge, Kilday testify on Bulwinkle bill; hearings are expected to end soon

Hearings before the Senate interstate commerce committee on the Bulwinkle Bill, H. R. 2536, are expected to conclude shortly, it was indicated by committee members this week. Meanwhile, testimony in opposition to the measure, passage of which would exempt railroads from anti-trust legislation in respect to rate-making procedures, continued to highlight the hearings this week, when Wendell Berge, assistant attorney general in charge of the Department of Justice's anti-trust division, and James E. Kilday, special assistant in the division, testified before the committee.

According to a tentative schedule, the Department of Justice witnesses were to be followed by Commissioner Clyde B. Aitchison of the Interstate Commerce Commission and representatives of the Association of American Railroads. Members of the latter group, who will appear in rebuttal, are expected to be headed by R. V. Fletcher, vice-president in charge of research of the A. A. R., who was the first witness to testify when the hearings opened on March 20. Both Judge Fletcher and the A. A. R. have been criticized by opposition witnesses, particularly Gov. Ellis Arnall of Georgia, as reported in *Railway Age*, April 6, page 740.

Ask for Delay—As did many of the preceding opposition witnesses, Mr. Berge also urged the committee to delay action on any legislation such as the Bulwinkle bill until decisions are reached in the current anti-trust suits filed against the railroads by the State of Georgia and by the Department of Justice in Lincoln, Neb.

Pointing out that the Interstate Commerce Act allows competing carriers to file joint through rates with the I. C. C., Mr. Berge said that the department's viewpoints on conferences was that railroads may confer only to discuss rates. "As soon as they agree on them," he added, "they are violating the anti-trust laws."

"The department has no complaint to find with the technical services rendered by rate bureaus," he continued, "but in the Lincoln, Neb., case we allege that in addition to the agreement on rates the overall rate bureau organization kills off independent action." He said he also agreed with the allegations made by the state of Georgia in the Supreme Court.

"The conference rate bureau system of initiating rail rates, under which individual railroads surrender their independent managerial discretion to group interest in the making of rates, is a device for fixing and maintaining arbitrary and non-competitive prices for rail services," he said. "Dominant railroad and financial interests of the country have conspired to use this price-fixing device to regiment the railroad industry by fixing and maintaining non-competitive rail rates designed to preserve a rate structure based on the highest, rather than the lowest, possible rate."

"This conspiracy," he asserted, "has ac-

quired and exercises power to control rail freight rates throughout the United States. Its power is so enormous that it has been able to circumvent orders issued by the I. C. C. and even to prevent individual railroads from entering into joint rail-truck arrangements specifically authorized by Congress.

"The vast power which this conspiracy derives from its control over rail rates has been consistently exercised to maintain the industrial 'status quo' by eliminating freight rates as a competitive factor and by preserving historic regional rate disparities which deny to the products of southern and western industry equal access to northeastern markets."

The witness, who also assailed the A. A. R., said that only shippers who used their monopolistic connections with railroads to dictate rates need to have any fear of anti-trust prosecution.

Shippers' Fears Belittled—"Shippers had a monopolistic connection with the railroads when they used their own coercive power to prevent lower rates from being filed," he added. "Fears of small shippers that they would be subject to anti-trust prosecution, should the Bulwinkle bill be defeated, have been 'conjured up by propaganda.'"

In answer to Senator Reed, Republican of Kansas, who disagreed with the witness' assertions that the I. C. C. had power only to order changes of rates if it found them discriminatory or unreasonable, and that it must let rates stand if they were reasonable, Mr. Berge declared, "I am not a proponent of rate wars. I believe that the policy of free competition would not result in rate wars because of competition within the zone of reasonableness. Competition often produced uniform rates and the fact that they were uniform was not objectionable. It is not desirable to have a rate system that uctuates every day and neither is it desirable to have rates frozen at the highest level in the zone of reasonableness."

"Nothing violates the anti-trust laws if authorized by the Interstate Commerce Act," he said. "If the act authorizes publication of a joint through rate to apply over several routes between New York and Atlanta, for example, a carrier conference in which agreement on that rate was reached would not violate the anti-trust laws."

In reply to Senator Hoey, Democrat of North Carolina, who cited a rate conference in which publication of a rate over several competitive and individual roads was discussed and on which all carriers concerned published an identical rate, Mr. Berge said that the fact that the same rate was published by all parties of the conference was "not necessarily prima facie evidence of anti-trust law violation," adding that there had to be an agreement on the rate before there could be such a violation.

Pointing out that the I. C. C. at present has no power to regulate rate bureaus, Committee Chairman Wheeler, Democrat of Montana, told the speaker that he "wants to work out with the Department of Justice a plan whereby certain practices of rate bureaus can be regulated."

"A bill to regulate rate bureaus would be altogether different than the Bulwinkle bill," Mr. Berge replied. "Independent carriers should be allowed to initiate rates and it is a great mistake to allow groups composed of several carriers to continue this practice."

Senator Wheeler said the committee is attempting to seek a legitimate method by which rate bureaus can operate, and he added that "everyone concedes that the I. C. C. today cannot possibly check all rates. We want to prevent the railroads from threatening other railroads with respect to making rates."

Mr. Berge said that he agreed with Senator Wheeler and, calling for the application of the anti-trust laws to public utilities, which, he said, differ in certain aspects from other industries, asserted that "as it now stands, we do not know when prices are raised due to collusive action." He also cited the large expense involved in time and money by any small complainant in regard to appealing to the I. C. C. for a rate adjustment.

Sees a Precedent—"This bill, if enacted, would remove a large segment of the economy from the sphere of economic freedom guarded by the Sherman and Clayton Acts," he concluded. "It would establish a precedent which would encourage other industries, already chafing under the limitations which the anti-trust laws impose upon private economic power, to seek similar immunities. Other groups already have announced their intentions to follow the example of the railroad industry in asking Congress for license to violate the precepts of free enterprise upon which the Sherman Act rests. The committee should consider to what extremes this tendency to seek capital license for special interests may lead. It also is pertinent to ponder whether enterprise can continue half slave and half free."

Mr. Berge added that he hoped he had given a "clear statement" of the position of the Department of Justice, which, according to Senator Reed, "next to the Office of Price Administration ranks the lowest among the shippers."

Mr. Kilday, whose evidence included approximately 125 exhibits designed to show how the A. A. R. influenced the system of rate conferences and bureaus operated by the railroads and motor carriers, charged that the "conspiracy" of the A. A. R. and other railroad organizations operates under acts of Congress which are permissive rather than mandatory. He said that the A. A. R. and its affiliates prevent carriers from filing their own rates, despite the fact that the Interstate Commerce Act provides that individual carriers are permitted to perform that function.

The witness said he procured his exhibits from files of rate bureaus, shipper organizations and the A. A. R. and that documentary evidence is available showing that the Southern Ports Foreign Freight Committee accepts orders from A. F. Cleveland, vice-president in charge of traffic of the A. A. R., to delay publication of rates approved by that committee. He also charged that the Traffic Executive Association, Southern Territory, was organized at the instigation of John J. Pelley, president of the A. A. R.

"Explains" Rate "Walls"—In further testimony, he declared that a "rail combine works with the major oil combines to erect and maintain what might be termed a 'rate wall.'" "The rate wall," he added, "is for the purpose of keeping the western independent oil refiners in the Louisiana, Arkansas and Texas areas from marketing their products on the southeastern seacoast and for the purpose of restricting the southeastern seacoast to sources of supply of petroleum products by the major oil companies located at southern seacoast points and by major oil companies located west of the Mississippi river, including Texas, Arkansas and Louisiana."

Mr. Kilday said that this practice "is accomplished quite simply" in view of the fact that the major oil companies, by owning or controlling water carriers, use them to transport oil to storage points along the southern seacoast and also to haul their products from Louisiana, via the Mississippi, to Memphis, where the oil is then transported by their own trucks."

"The problem of the majors is to keep the independent, who is located in Texas, Arkansas and Louisiana, most of whom own no water carriers or trucks, from getting his products on the southern seacoast by rail,' 'he added.

Referring to a rate complaint filed in 1938 by a small shipper, Mr. Kilday told the committee and particularly Senator Hawkes, Republican of New Jersey, that the reason many shippers do not voice their feelings at the current hearings is due to the "close working agreements between the Shippers Advisory Boards and the A. A. R.

Senator Hawkes said he considered the present rate-making system both "valuable and remarkable." "I wouldn't destroy the present system because of its occasional irregularities," he continued, "because you can find faults with most anything, even the Department of Justice. I don't believe in monopoly, but I think the railroads are in a little different position. Furthermore, I can't see how you can possibly do away with rate bureaus without impairing the nation's transportation system."

Senator Wheeler, also participating in the discussion, said that the railroads should appeal directly to the I. C. C. instead of through the A. A. R. with respect to rates they want made effective. "That's what the I. C. C. was set up for," he continued, adding that "there is no railroad president today who wants the I. C. C. disbanded." He said that abolishment of the commission would result in "cut-throat competition" between the rail and motor carriers.

Mr. Kilday also told the committee that shippers "let their hair down" in regard to "conditions" while at home, but that they "sing a different tune" when appearing before congressional hearings such as the Bulwinkle bill.

"The Department of Justice is not complaining about rate bureaus 'as such,' but rate bureaus 'as is,'" he concluded, adding that "under the bill, as it is now written, the so-called western agreement may be legalized by approvement of the I. C. C."

He advocated that the Department of Justice, if not the I. C. C., should be permitted to investigate the procedures of the rate bureaus, which, he claimed, are now performing practices which are in direct violation of the anti-trust laws.

Attorney General Gets Report on Army Freight Charges

The report on freight charges paid by the Army, which the Bureau of the Budget made at the suggestion of Senator Wheeler, chairman of the Senate committee on interstate commerce, has been transmitted by the Bureau to the Department of Justice. While it is understood that the Justice Department has not yet decided what, if any, action might be taken, it has been suggested that an initial move could be the filing of a complaint with the Interstate Commerce Commission.

As noted in the *Railway Age* of February 9, page 333, the investigation out of which the report came was made for the Bureau of the Budget by a special committee consisting of W. B. Hammer, chairman of the Board of Suspension, I. C. C., and Charles E. Bell and Emory B. Ussery of the firm of Bell & Ussery. They found generally that the federal government "has not only paid excessive charges in stupendous amounts before and since Pearl Harbor, but is still paying such excess charges on presently moving traffic and will continue to pay them until appropriate action is taken to remedy the situation."

Emergency Board Created

President Truman on March 17 issued an order creating an emergency board to investigate a dispute between the Chicago, Rock Island & Pacific and its employees represented by the Brotherhood of Railroad Trainmen. The dispute involves grievances that would normally be handled by the National Railroad Adjustment Board, and creation of the emergency board removed the threat of a strike which the B. of R. T. had set for 6 p. m. of the day on which the President acted.

C. & I. M. Yard Brakeman Gets Medal of Honor

Upon recommendation of the Committee on Award of Medals of Honor, approved by the Interstate Commerce Commission, President Truman has bestowed a medal of honor on Curtis E. Houston, of Springfield, Ill., a Chicago & Illinois Midland yard brakeman. The medal was awarded under the act of February 23, 1905, which provides for bronze medals of honor in recognition of outstanding feats of bravery connected with saving of life upon railroads.

The award to Mr. Houston was based on his rescue of a nine-year-old girl from a C. & I. M. track on which a switching movement was being made. This occurred at Springfield, Ill., on March 21, 1945.

About noon on that date, a switch engine on which Mr. Houston was working was pushing two box cars ahead of it on a siding preparatory to placing them at a mill, according to a notice by W. P. Bartel, secretary of the commission, setting forth the circumstances. Mr. Houston was riding on the sill step at the forward end of the leading car.

As the movement approached a grade crossing, Mr. Houston noticed a small boy and girl standing near the track. When the front end of the leading car was about 12 ft. from the children, the girl suddenly turned and darted on the track. Mr. Houston shouted to her and she stopped in the center of the track. He then jumped to the ground, ran around the end of the car, grabbed the girl and thrust her clear of the track. As he did so, however, the corner of the car struck his shoulder, throwing him to the ground. The girl was not injured.

This was the fifty-seventh medal of this character awarded since the passage of the act in 1905.

February Accident Statistics

The Interstate Commerce Commission on April 12 made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for February and this year's first two months. The compilation, which is subject to revision, follows:

Item	Month of February		2 months ended with February	
	1946	1945	1946	1945
Number of train accidents*	1,322	1,532	2,742	3,175
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	101	99	215	180
Injured	69	64	130	153
Passengers on trains:				
(a) In train accidents*				
Killed	...	1	3	1
Injured	74	397	247	467
(b) In train-service accidents				
Killed	8	2	13	7
Injured	181	185	419	419
Travelers not on trains:				
Killed	3	...	7	...
Injured	89	109	210	241
Employees on duty:				
Killed	66	73	131	167
Injured	3,364	3,936	7,289	8,201
All other nontrespassers:**				
Killed	176	184	394	378
Injured	662	608	1,458	1,508
Total—All classes of persons:				
Killed	354	359	763	733
Injured	4,439	5,299	9,753	10,989

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers*, were as follows:

Persons:				
Killed	174	169	393	347
Injured	436	349	954	937

Reopens Two Cases Involving Status of Supervisors

Two cases wherein the Interstate Commerce Commission's previous decisions have interpreted and amended outstanding orders defining the work of employees and subordinate officials to include the work of supervisors have been reopened by the commission for oral argument to be held May 9 at Washington, D. C. The effect of the previous decisions would be to bring the supervisory employees involved under the provisions of the Railway Labor Act.

Both decisions were in Ex Parte No. 72 (Sub-No.1.). One covered roadmasters on the St. Louis-San Francisco, while the other involved Union Pacific roadmasters and other supervisors in the maintenance of way department, and supervisory employees in the signaling and telegraph departments. Both roads petitioned for reconsideration, and the reopening orders also grant petitions of the Association of American Railroads and the Railway Labor Executives' Association for leave to intervene.

Kennedy Confirmed for R. R. B.

The Senate on April 12 confirmed President Truman's nomination of William J. Kennedy of Ohio to be chairman and "public" member of the Railroad Retirement Board for the remainder of a term expiring August 29, 1947. He succeeds Murray W. Latimer, who resigned recently.

Burk Leaving O. D. T.

M. Ellis Burk, assistant director of the Railway Transport Department, Office of Defense Transportation, and chief of O. D. T.'s tax amortization section, has resigned effective May 1. He will become a special engineer for the Atlantic Coast Line with headquarters at Wilmington, N. C.

Mr. Burk has been with O. D. T. since January, 1942, and he will continue to serve as a consultant engineer for the agency until it terminates on June 30.

Lower Coal Rate to Youngstown Postponed by I. C. C.

Acting upon "further consideration of the record" and "upon request of the United States District Court for the Western District of Pennsylvania," the Interstate Commerce Commission has postponed from May 1 until June 1 the effective date of its order in the No. 28825 proceeding which prescribes lower rates on all-rail coal from the Pittsburgh, Freeport and Leetonia districts in Pennsylvania, and on ex-river coal from Conway, Pa., and Colona, to the Youngstown, Ohio, steel producing district. As noted in the *Railway Age* of March 16, page 583, the commission recently denied railroad petitions for reargument and reconsideration.

Sees Waterways Losing Package Freight Without New Boats

Re-establishment of package freight transportation on domestic waterways of the United States depends chiefly on the acquisition of modern vessels and handling facilities to permit a more efficient service, according to the December-January Industry Report on Domestic Transportation of the Department of Commerce.

Explaining that transportation of package freight on inland waterways decreased from nearly 27,000,000 tons in 1940 to 18,500,000 tons in 1943, the report points out that the resumption of normal service for bulk commodities presents few serious difficulties, but there are "many problems" confronting the resumption of package freight movement.

It adds that the cost of carrying general merchandise freight on waterways is "relatively high" at present and that unless domestic waterway operators can handle this kind of traffic "more efficiently," the business will probably be lost to them. It remarks that even before the war package trade on domestic waterways was "handicapped by obsolescent vessels and inade-

quate terminal facilities." According to the department, costs were increased due to the great variety of package freight carried and the lack of mechanical loading and unloading facilities, which resulted in a high average of time spent by vessels in port.

The report suggests a self-unloading vessel for handling cargo in containers as a more efficient method of handling package freight. The ship, it says, should be specially designed for containers and loading and unloading would be expedited by the use of fork-lift trucks. "This method of handling cargo could sharply reduce the time and cost of transporting package freight and would eliminate much cargo damage and pilferage," it remarks.

Modified Revamp Bill Reported to Senate

(*Continued from page 834*)

to modify its obligations would file an application with the commission, and the commission might, in its discretion, require that such application be accompanied by assurances of assent from a portion of the security holders affected. A public hearing on the application would be required, and if the commission then made certain findings it would order the carrier to submit the proposed plan to the holders of each class of obligations affected, for acceptance or rejection.

An order approving the plan or a modified version thereof would be entered by the commission if it found that the proposal had been assented to by the holders (1) of at least 66⅔ per cent of the aggregate principal amount of each class of obligations affected thereby; or (2) of less than 66⅔ per cent but not less than 51 per cent of any particular class or classes of securities affected, and the commission, after hearing, finds that such reduction in percentage will be just and reasonable and in the public interest; or (3) in any case where 66⅔ per cent thereof is held by fewer than 25 holders, of such larger percentage, if any, as the commission, after hearing, finds will be just and reasonable and in the public interest.

Not Mandatory—The provisions of section 20b would not apply to equipment-trust certificates or any other evidences of indebtedness the payment of which is secured by equipment. Also, the section's provisions are "permissive and not mandatory and shall not require any carrier to obtain authorization and approval of the commission hereunder for the making of any alteration or modification of any provision of its obligations . . . which it may be able lawfully to make in any other manner."

On the other hand, section 20c would require the covered roads undergoing reorganization to "institute proceedings and file applications under section 20b as expeditiously as possible but in no event later than six months after the effective date of this section, or such longer period as the commission, on application, may approve."

Here also the commission could enter an order making proposed readjustment plans effective even though the proportion of assents specified in 20b is not obtained—if it finds, after hearing, that the rejection by any class or classes of creditors "is not reasonably justified in the light of the respective rights and interests of those rejecting them and all the relevant facts." Moreover, the commission could promulgate its own adjustment plan if a voluntary proposal had not become effective within a year after the filing of the application.

In taking such action the commission would be required to "give full effect to all changes, facts, and developments since 1940, including, without limitation, for such period total railway operating revenues, operating expenses and other charges, net earnings, the full effect of amortization deductions on earnings of past and future years, improvements to the property, the effect of the released collateral through past or future payment of loans, cash and net current assets, retirements and purchases of debt, including retirements and purchases at a discount that have been made or that can reasonably be made, adjustment and reduction of interest rates on outstanding debt that may be made including the adjustment and reduction of interest rates for prior years."

To expedite procedures there is a paragraph in section 20c which would require the commission to designate one or more members of its staff to serve as mediator or mediators in connection with the bill's provisions applicable to roads already in the hands of the courts. These mediators would function for the purpose of bringing the different classes of creditors and security holders together, and would otherwise assist and advise the parties.

Speedy Action Urged—The committee's report on the bill is a document of 173 pages, highlighting the legislative history of railroad reorganizations and pointing up pertinent testimony from the record of the recent hearings. It asserts that the proposed legislation "is necessary and should be enacted as quickly as possible."

"The bill," the report goes on, "affects about 2½ billion dollars par and stated value of railroad securities held by several hundred thousand American citizens resident in every state in the Union. If existing law is permitted to remain undisturbed, or if amended only as certain minority groups of security holders desire, approximately one-half billion dollars in par value of junior bonds of railroads, and some $2,000,000,000 in stated value of preferred and common stocks of railroads would be wiped out and held valueless. The 2½ billion dollars does not represent the present market value of the bonds and stocks; it does represent the amount of money originally invested by hundreds of thousands of small investors in these stocks and bonds.

"The bill enables railroad companies to adjust their financial affairs quickly, economically, and on a business basis. The procedure it provides will reduce any disturbance of their affairs to a minimum, and will provide the maximum of protection for both the railroads and their investors.

"The existing law, section 77, was enacted in 1933, without hearings and without consideration by any subcommittee or committee of the Senate. It was enacted in the belief that it would help railroads to correct their financial affairs. It was found to do the opposite. It has placed in the hands of government officials extraordinary power, which they had not requested, over 25 per cent of the country's railroad mileage —a power which they have exercised: (1) To demolish every part of the financial and corporate structures of those railroads; (2) to plan in every respect the financial and corporate future of those railroads; (3) to pick men to control those railroads; and (4) to decree the forfeiture of $2½ billion of investments.

"The present bill puts an end to every one of those powers and restores the operation of railroads to their managements and the adjustment of their finances to the companies themselves, with the assistance of their security holders, where necessary."

Union and Santa Fe Agree on Cab Seating Facilities

A complaint filed with the Interstate Commerce Commission by the Brotherhood of Railroad Trainmen, which alleged that the Atchison, Topeka & Santa Fe, the Gulf, Colorado & Santa Fe and the Western Pacific are operating steam locomotives in violation of the Locomotive Inspection Act in that they are "not equipped with adequate seating facilities for the use of brakemen and trainmen" has been dismissed at the request of the union in so far as it pertains to the A. T. & S. F. Coast lines.

As reported in *Railway Age* January 12, page 161, the union has asked the commission, after hearing, to order the installation of seating equipment meeting suggested specifications.

No Union Representation for U.P. Patrolmen — Correction

The ninth paragraph of the item entitled "Representation of Employees," which appeared on page 742 of the *Railway Age* of April 6, was incorrect in its statement that the National Council, Railway Patrolmen's Unions, A. F. of L., had been authorized to act as representative under the Railway Labor Act of Union Pacific patrolmen (head watchmen, assistant head watchmen, money guards, watchmen, guards, train riders and special agents). The National Mediation Board's report on the recent election involving these employees shows that the case was "closed without certification," the board being unable to make a certification "for the reason that less than a majority of those eligible to vote actually voted."

I. C. C. Sets Conference on Uniform Bill of Lading

The Interstate Commerce Commission has scheduled a prehearing conference for April 30 at Washington, D. C., in the reopened No. 4844 proceeding involving the uniform domestic bill of lading. The conference, which will consider procedure for the further hearing, will be held at the office of Commissioner Porter.

The announcement from I. C. C. Secretary W. P. Bartel recalls that the proceeding was reopened under the commission's order of March 2, 1942, for further hearing "in respect of such changes in the domestic bill of lading used by common carriers subject to part I of the act as may be necessary to make reasonable and otherwise lawful terms, conditions and form of such bill of lading for common use by common carriers subject to parts I and II." The reopening

order also broadened the scope of the proceeding "to embrace the lawfulness under the act of the said terms, conditions and form of such bills of lading used by common carriers by motor vehicle subject to part II of the act with a view to prescribing a uniform domestic bill of lading for common use by all common carriers subject to parts I and II of the act."

Nation's Transportation Policy C. of C. Meeting Topic

The nation's transportation policy will be the subject of a panel discussion at the May 1 luncheon session of the annual three-day meeting of the Chamber of Commerce of the United States, which opens in Atlantic City on April 30.

Representative Harris, Democrat of Arkansas, will head the panel, and other participants will include Carlton Meyer, assistant to the president, New York Central; D. L. Sutherland, president, Middle Atlantic Transportation Co., Inc.; Arthur M. Hill, president, Atlantic Greyhound Corp.; Chester Thompson, president, American Waterway Operators; Jack Frye, president, Transcontinental & Western Air; Frank Hulse, president, Southern Airways, Inc.; and Alfred W. Vogtle, vice-president, DeBardeleben Coal Corp.

Equipment Depreciation Rates

Equipment depreciation rates for the Lehigh & Hudson River and Washington Terminal are among those prescribed by the Interstate Commerce Commission in a new series of sub-orders in the general proceeding, Depreciation Rates for Equipment of Steam Railroad Companies. The total ledger value of all the equipment of the two roads named is given, respectively, as $1,035,960 and $869,520.

For the Lehigh & Hudson River the depreciation rates prescribed in sub-order 355-B are: Steam locomotives, 3.04 per cent; freight train cars, 2.73 per cent; work equipment, 3.38 per cent; and miscellaneous equipment, 17.0 per cent. For the Washington Terminal the rates prescribed in sub-order 577-B are: Steam locomotives, 2.83 per cent; other locomotives, 3.88 per cent; work equipment, 4.74 per cent; and miscellaneous equipment, 17.42 per cent.

Car Service Orders

The Interstate Commerce Commission has issued Amendment No. 1 to Service Order No. 430, extending from April 15 to May 1 the expiration date of the order which permits cars loaded with unbilled coal to be held free of demurrage on mine or scale tracks. The amendment also extends provisions of the order to unbilled cars not covered by the original issue. The order is intended to facilitate compliance by mines with directives of the Solid Fuels Administrator during the present miners' strike.

Amendment No. 4 to Fourth Revised Order No. 180 extends from April 15 to August 31 the expiration date of that order which puts penalty demurrage charges on refrigerator cars. Agent C. W. Taylor's authority over the handling of refrigerator cars has been extended from May 1 until June 30 by Amendment No. 4 to Service Order No. 95.

Amendment No. 7 to Service Order No. 394 and Amendment No. 2 to Service Order No. 436 extend to August 31 the effective dates of those orders which, in turn, restrict the free time allowable on refrigerator cars, and require railroads to remove reefers from the place of unloading within 24 hours and to forward them promptly to loading territory. Amendment No. 2 postponed from April 15 to August 31 the expiration of Service Order No. 396 which places a 48-hour limitation on the reconsignment of perishables loaded in refrigerator cars. Amendment No. 1 to Fourth Revised Service Order No. 104 provides a new paragraph which has the effect of reinstating points in eastern territory as points of origin at which refrigerator cars may be substituted for box cars in transporting westbound carload shipments to the described destination territory on the Pacific Coast.

Equipment and Supplies

LOCOMOTIVES

THE CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC has ordered five 6,000-h.p. Diesel-electric passenger locomotives from Fairbanks, Morse & Co.

SIGNALING

THE DENVER & RIO GRANDE WESTERN has ordered a control machine from the General Railway Signal Company for the control of 4 switch machines and 21 signals between Deen, Colo., and Keeldar. The control machine, a table-top model, will have a 12 by 17-in. panel equipped with 11 levers and 14 track indication lights.

THE CHICAGO, BURLINGTON & QUINCY has ordered materials from the General Railway Signal Company to remodel the C. T. C. control machine at Hastings, Neb. The 4 existing panels will be replaced with new ones, which will include 8 additional levers for the added control of 13 electric switch locks.

THE NEW ORLEANS PUBLIC BELT has placed an order with the Union Switch & Signal Company covering the material required for the installation of 6 miles of multiple track automatic block signaling from Southport, La., to M. P. 6 near Race street, New Orleans, as well as for materials for two automatic interlockings for the protection of double-track crossings of the Illinois Central in the same territory. The order includes Style H-2 searchlight and N-2 colorlight dwarf signals, instrument cases, light type switch indicators, Style U-5 switch circuit controllers, relays, and rectifiers. The work will be done by railroad construction forces.

The NEW YORK, CHICAGO & ST. LOUIS is equipping an additional 15 miles of single track, between South Whitley, Ind., and Claypool, Ind., with centralized traffic control. The new installation will be connected with the 20-mile stretch of single track already equipped with C. T. C. from a point four miles west of Fort Wayne, Ind., to South Whitley, making a total of 35 miles in this territory.

The Nickel Plate has also contracted for the necessary equipment for the installation of centralized traffic control between Arcadia, Ohio, and New Haven, Ind., 79 miles, and between Arcadia and St. Marys, Ohio, on the Lake Erie and Western district, a distance of 62 miles. With the completion of the new work authorized, the road will have a total of 282 miles of single track equipped with C. T. C.

THE ST. LOUIS - SAN FRANCISCO has placed an order with the Union Switch & Signal Company for the signal material involved in an installation of centralized traffic control between Jasper, Ala., and Birmingham, 40 miles of single track, with a Style C control machine installed at Amory, Miss., 82 miles north of Jasper, to control the entire territory. The order includes, besides the control machine, coding units, and carrier equipment; Style H-2 searchlight high and dwarf signals, Style M-2 and M-22A electric switch layouts, SL-6A electric lock layouts, emergency manual control units, yard track indicator, relays, rectifiers, transformers and housings. Coded carrier will be employed on an existing communication line between Amory and Jasper. The installation work will be done by railroad forces.

The NEW YORK CENTRAL has ordered equipment from the General Railway Signal Company to install automatic highway crossing protection at 20 locations in Mishawaka, Ind. Type B plug-in relays and welded steel housings will be used.

Supply Trade

American Locomotive Has $100,000,000 Backlog

A backlog of slightly less than $100,000,000 in orders was reported at the annual meeting of shareholders of the American Locomotive Company by Duncan W. Fraser, chairman of the board. This is the largest peacetime backlog in the company's history. Production of locomotives and other products has returned to normal at four of the company's plants which were on strike until recently.

Reporting on recent engineering and manufacturing developments, Mr. Fraser announced that the company is developing at Schenectady, N. Y., "the most modern plant for mass production of Diesel engines and Diesel-electric locomotives to be found anywhere in the world. The company has been quick to reflect the demands of railroads for Diesel-electric locomotives," he said, "and without disturbing our steam locomotive productive capacity, we have invested substantially in research and development for expanded facilities in the Diesel field." Diesel engines, he added, will be built on the assembly line principle.

B. C. Graves, executive vice-president of the **Union Tank Car Company,** Chicago, has been elected president, succeeding

L. J. Drake, who has been elected chairman of the board of directors. **J. E. Harley,** assistant to the executive vice-president, has been elected a vice-president, and **A. E. Gebhardt** and **R. H. Lamberton** have been appointed assistants to the president.

Harold Henderson has rejoined the Detroit, Mich., sales staff of the **Formica Insulation Company,** Cincinnati, Ohio, following his recent release from the Army.

Evans S. Schmeling has been appointed assistant manager of the **Wyandotte Chemicals Corporation's** industrial department, Wyandotte, Mich.

Cornell E. Jones, formerly a major in the U. S. Army Corps of Engineers, has been appointed sales development manager of the **Caterpillar Tractor Company** with headquarters at Peoria, Ill.

Raymond J. Dervey has been appointed manager of the Pittsburgh, Pa., office of the **American Hoist & Derrick Co.,** to succeed **Ralph Thomson,** who will take charge of the New York office.

Charles E. Heintz, general sales manager of the **Elastic Stop Nut Corporation of America,** Union, N. J., for the past two years, has been elected vice-president in charge of sales.

T. I. Haley and **A. C. Barth,** field representatives, respectively, in the Portland, Ore., and Dallas, Texas, offices, have rejoined SKF after service in the armed forces.

Cornell E. Jones has been appointed sales development manager of the **Caterpillar Tractor Company,** Peoria, Ill., to succeed **Kenneth F. Park,** recently named to the newly created post of engineering consultant on all matters pertaining to the earthmoving field.

Richard Y. Dakin and **Morris B. Miller** have been appointed California sales representatives for the **Flexible Steel Lacing Company,** Chicago. **E. R. Spragg** and **G. G. Spragg** were appointed sales representatives for Washington and Oregon.

L. C. Kroes has been appointed manager of central regional sales of the **Detrex Corporation,** Detroit, Mich., manufacturers of solvent degreasing equipment and chemicals, metal parts washers, Triad cleaners and drycleaning equipment. Mr. Kroes' headquarters will be in Detroit.

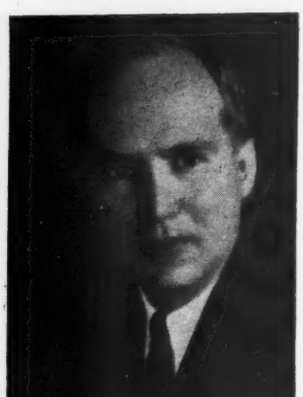
William C. Decker has been elected president of the **Corning Glass Works,** Corning, N. Y., to succeed **Glen W. Cole,** who was elected vice-chairman of the board of directors. **Charles D. LaFollette,** who was elected treasurer, will continue as vice-president and director of sales.

Clinton E. Stryker, formerly vice-president and assistant to the president of the Nordberg Manufacturing Company, Milwaukee, Wis., has resigned to become president and general manager of the **Adel Precision Products Corporation,** with headquarters at Burbank, Cal.

J. A. Strachan has been appointed sales manager of the original equipment division of the **Weatherhead Company,** Cleveland, Ohio, covering the sales of all products to original equipment manufacturers in the refrigeration, air conditioning, railroad, marine, chemical, food and beverage processing, and dairy equipment fields.

Appointment of seven field representatives to as many district and branch sales offices of **SKF Industries, Inc.,** has been announced by R. R. Zisette, general sales manager. The new field representatives are **J. K. Redding,** Philadelphia, Pa., office; **L. E. Jacobs,** Buffalo, N. Y.; **W. S. Corneille,** Milwaukee, Wis.; **F. O. Hamlet,** Chicago; **G. E. Mayhew,** Cleveland, Ohio; **B. J. Fraher,** Detroit, Mich.; and **C. L. Eberlein,** Atlanta, Ga.

John W. Barriger, III, whose promotion to manager of the Railway division of **Fairbanks, Morse & Co.,** was reported in the *Railway Age* of April 13, was born in Texas and is a graduate of the Massachusetts Institute of Technology. He began his career with the Pennsylvania, serving in various capacities in the maintenance of way and the transportation departments. From 1933 to 1941 he was in charge of the Railroad division of the Reconstruction Finance Corporation and in the latter year he became associated with the Carriers' Conference committee, working on the 1941



John W. Barriger, III

wage case. At its conclusion Mr. Barriger returned to Washington, D. C., as an associate director of the Office of Defense Transportation, resigning from that position to again become associated with the Carriers' Conference committee in the 1943 wage case, and also to become vice-president of the Union Stock & Transit Co., Chicago. From 1940 to 1942 he was appointed reorganization manager of the Chicago & Eastern Illinois and during this period he was elected to the board of directors. He subsequently became a member of the board of the Alton.

The **Sterling Engine Company,** Buffalo, N. Y., has opened a direct factory branch in San Francisco, Cal. The new factory branch, established to handle expanding business in the Pacific coast states, will serve the territory west of the Rocky Mountains, and will give the Sterling Company a coast-to-coast sales and service organization. **Hans Bohuslav,** vice-president and director of Sterling's engineering development and research, will be in direct charge of the new factory branch. He will be assisted by **Al Hahn,** who recently joined the organization. **B. Gordon Valetine** has been appointed chief engineer of the company.

OBITUARY

Harry Atkinson, assistant freight traffic manager of the New York region of the Baltimore & Ohio, died at his home in Maplewood, N. J., on April 11.

Construction

Canadian Pacific Improvements to Cost $36 Million

The Canadian Pacific will spend $36,110,454 in eastern and western Canada in 1946 for rehabilitation of company property and new construction and rebuilding necessarily deferred during the war, it has been disclosed. Of the total, $20,344,324 will be expended on the western lines and $15,766,130 on the eastern lines.

This year the Canadian Pacific expects to lay approximately 1,100 miles of rail, 730 miles of it in the West. Total cost of improvements to track, roadbed and laying of steel will run to $19,858,899, with $7,586,849 earmarked for the East and $12,272,049 for the West. More than $3,228,000 will be required for strengthening of bridges, trestles and culverts to allow operation of heavier motive power, especially on lines in the Maritimes and in the Rocky Mountain region.

While most of the appropriations have been allotted to the improvement of track and ancillary properties, expenditures on new construction and special projects are estimated at more than $9,000,000. Work on locomotive repair shops and enginehouses will total $2,690,294 in the West and $2,178,971 in the East, while $1,208,255 and $3,044,071, respectively, have been allocated for stations, offices and other buildings in the same sections. Another $1,951,631 has been set aside for signals and interlocking plants, providing for 199 track miles of automatic block signals along eastern lines and 187 miles in the West.

Included in the total eastern Canada appropriation is $2,457,000 for 364.9 miles of rail, $654,700 for reballasting, $408,000 for tie plates and rail anchors and $147,000 for rail welding. At Montreal's Glen yards $830,000 is going into improving passenger car facilities, a major item in the figure for new construction on eastern lines, which also includes modern stations at Owen Sound, Red Rock and White River, all in Ontario. Among the new coaling plants and water stations for eastern Canada is one at Saint John, N. B., costing $172,000, and others at the Ontario points of Lambton, Cartier and Chapleau, which will cost $112,000, $73,000 and $80,000, respectively.

More than 700 track miles of steel to be laid in western Canada will run to $4,653,483, while $1,044,075 will be spent on tie-plates and rail anchors, $215,240 on reballasting and $141,900 on rail welding. A new $500,000 direct-steaming plant will be built at Alyth shops, Calgary. The western Canada figure for signals and inter-

locking plants includes the construction of a new $300,000 signal plant to replace the existing tower at Rugby Junction, Winnipeg.

BALTIMORE & OHIO.—This railroad has awarded contracts to the Empire Construction Company of Baltimore, Md., for the improvement of its K street project in Washington, D. C., at an estimated cost of $283,000; to the General Railway Signal Company, Rochester, N. Y., for work on the car retarder systems in its eastbound and westbound yards at Willard, Ohio, at an estimated cost of $457,365, and to the Bates & Rogers Construction Corp., Chicago, for work on bridge 691 in Orlando, W. Va., and bridge 730 in Burnsville, W. Va., at an estimated cost of $32,537.

NEW YORK CENTRAL.—Contracts have been awarded by this railroad to the Babcock & Wilcox Company, New York, for two furnace boilers for the boiler plant at Utica, N. Y., and to the General Electric Company, New York, for one 3,000 kw. ignitron rectifier and automatic switchboard apparatus to be installed in substation 15 at Park Avenue and 86th Street, New York.

MISSOURI PACIFIC.—A construction and improvement program, to cost in excess of $700,000, and involving the letting of three contracts has been announced by this road. The project consists of four separate jobs, with the individual costs and contractors as follows: Approximately 4.0 miles of line and grade revision between Little Blue, Mo., and Elm Park, contract to the Winston Bros. Company, Minneapolis, Minn., $454,000; raising of 1.75 miles of track and construction of three trestles between Warrensburg, Mo., and Strasburg, contract to R. G. Aldridge, Kansas City, Mo., $100,000; widening and blanketing 3.07 miles of embankment slopes with earth and rock materials, involving 35,000 cu. yds. to strengthen and protect embankment against Missouri river overflow, contract to Tobin Quarries, Inc., Kansas City, $120,000; construction of a one-story structural extension to a freight warehouse at St. Louis, Mo., the work to be done by company forces, $30,500.

Financial

ATLANTIC COAST LINE.—*Stock.*—This road has applied to the Interstate Commerce Commission for authority to issue 823,427 shares of common stock without par value to be exchanged for a like number of $100-par shares now outstanding. The exchange would be in accordance with action taken at the road's recent annual meeting, approving a change in the authorized capitalization from $100,000,000 to 1,500,000 shares of no-par stock. Only the 823,427 shares to be exchanged would be issued at this time and the stated value of outstanding shares would remain $82,342,700. The application said that the road desires to have capital stock available for future debt retirement purposes; and that it believes that common stock without nominal or par value has "certain advantages" over common stock of par value of $100 a share.

BALTIMORE & OHIO.—*Protection of Employees.*—Reporting on re-argument in the Finance Docket No. 14891 proceeding, the Interstate Commerce Commission has ruled that, in approving a transaction under section 5(2) of the Interstate Commerce Act, it is without authority to condition such approval upon assumption by the railroads involved of obligations with respect to the protection of employees of a non-participating road. This is the case wherein Division 4's prior report approved the plan whereby the B. & O. has entered with the New York Central a trackage-rights agreement to continue its Detroit-Toledo passenger-train service heretofore provided under arrangements with the Pere Marquette (see *Railway Age* of December 8, 1945, page 956). The present report affirms Division 4's approval of the new trackage-rights agreement and its finding that no authority from the commission was needed by the B. & O. to discontinue its arrangements with the Pere Marquette. The commission then proceeded to dispose of the "primary question" which came up in the reargument —the request of the Brotherhood of Railroad Trainmen and Railway Labor Executives' Association for the imposition of employee-protection conditions applying to P. M. employees who have been operating the B. & O. trains. In rejecting the request the commission held that it was without authority to impose such a condition on the B. & O. and pointed out that no order it made in the proceeding could run against the Pere Marquette which was not a party. Meanwhile the commission did modify Division 4's order to reserve jurisdiction on the matter of provisions for the protection of B. & O. or New York Central employees involved. Following its usual practice in that connection, the division had failed to do this because it found that the only effect on such employees would be a beneficial one. The commission nevertheless reserved the jurisdiction "in order to insure a literal compliance with the intent of the statute." Commissioner Splawn, concurring-in-part, would have reserved jurisdiction also to consider further the matter of affording protection for the P. M. employees. He cited two previous decisions of the commission in which he found precedents for that point of view. Commissioner Patterson did not participate in the disposition of the proceeding. The B. & O. announced on April 16 that it will begin operating its Detroit-Toledo passenger trains under the new arrangements on April 28.

BANGOR & AROOSTOOK.—*Annual Report.*—A condensed statement of income follows:

	1945	1944
Railway operating revenue	$10,512,299	$10,024,676
Railway operating expense	7,771,867	6,065,812
Net from railway operation	$2,740,432	$3,958,864
Less tax accruals:		
Income and excess profit taxes	$850,125	$1,980,371
All other	778,108	757,602
Total	$1,628,233	$2,737,973
Railway operating income	$1,112,199	$1,220,891
Equipment, joint facility rents and other income—(Net)	182,914	294,805
Available for fixed charges	$1,295,113	$1,515,696
Less—Fixed charges	548,009	568,275
Net income	$747,104	$947,421

The decrease of $1,109,740 in taxes accrued in 1945, as compared with 1944, was due to the lesser amount accrued for federal income and excess profits taxes resulting from increased operating expenses, and from the amortization of emergency war defense facilities.

Since January 1, 1941, the company has reduced its bonded debt from $16,351,000 to $12,665,000, a reduction of $3,686,000 or about 22½ per cent. In addition, the company liquidated, without refunding or refinancing, a bank loan of $800,000, and retired equipment obligations of $881,400.

CANADIAN NATIONAL.—*Annual Report.*—This road showed a surplus of $24,756,130 for 1945, an increase of $1,729,206 over the preceding year, despite a reduction in freight and passenger traffic. Gross revenues totaled $433,773,000, a decrease of $7,347,000, or 1.7 per cent, under 1944. Operating expenses amounted to $355,294,000 and were $7,253,000, or 2 per cent, less than in 1944.

CENTRAL OF GEORGIA.—*Annual Report.*—Operating revenues of the Central of Georgia in 1945 totaled $38,253,680, compared with $38,987,758 in the preceding year. Operating expenses amounted to $37,087,032, compared with $29,093,515. A net deficit of $777,544 was reported, compared with net income of $1,201,163 in 1944. Current assets were $34,246,713, compared with $28,440,055, while current liabilities were $7,232,117, compared with $11,270,239.

CHICAGO & EASTERN ILLINOIS.—*Annual Report.*—The balance of income of the C. & E. I. transferred to profit and loss in 1945 totaled $1,052,451, compared with $1,463,570 in 1944. Operating revenues totaled $29,666,438, compared with $34,109,587, while operating expenses amounted to $23,444,395, compared with $23,848,211. Current liabilities were $6,893,436, compared with $9,908,507. Current assets were $13,341,269, compared with $15,620,066.

Gross charges for additions and betterments to road and equipment were $2,178,353, and the net charge was $1,273,038. During the year 46.08 miles of new 112-lb. rail were laid and 47.33 miles of secondhand rail were relaid in tracks, replacing rail of lighter weight; 153,467 creosoted cross ties and 157,610 tons of ballast were applied in existing tracks; 326 coal cars were rebuilt.

CHICAGO GREAT WESTERN.—*Annual Report.*—Operating revenues of this road in 1945 were $29,415,459, compared with $30,186,962 in the preceding year. Operating expenses totaled $22,127,297, compared with $21,003,946. Tax accruals amounted to $2,722,249, compared with $3,536,145, and total fixed charges were $768,883, compared with $789,546. Net income was $799,609, a decrease of 47.20 per cent under the $1,514,415 reported for 1944. The net decrease in long-term debt at the end of the year was $634,052.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—*New Directors Elected.*—At a recent meeting of the board of this com-

(*Continued on page 846*)

Canadian Pacific Railway Company

SIXTY-FIFTH ANNUAL REPORT OF THE DIRECTORS

(*Abridged*)

To the Shareholders:

The victorious ending of the war in Europe and in Asia and the partial readjustment of the Canadian economy to peacetime pursuits were the most significant factors affecting the year's operations. Though the flow of freight traffic derived from war production and from the export of war matériel suddenly ceased, the conversion needs of Canadian industry, the relief and rehabilitation needs of devastated Europe, and the repatriation of thousands of Canada's fighting men provided new sources of traffic. Notwithstanding a slight decline in gross earnings, an all-time record volume of transportation service was achieved by your Company.

Net earnings from railway operations were substantially less owing to increased costs. This was partially offset by an improvement in other income and a reduction in fixed charges. After providing for dividends on preference stock the earnings per share on ordinary stock amounted to $1.93 as compared with $2.21 in 1944.

During the year the sixtieth anniversary of the completion of your Company's transcontinental line was observed, and wide recognition was accorded the significance of this historic event by the press and by the public. Glowing tributes were paid to the great services rendered by your Company to Canada throughout the years since 1885. In the successful discharge of its responsibilities for wartime transportation service your Company has lived up to its highest traditions.

Income Account

Gross Earnings		$316,109,358
Working Expenses (including taxes)		280,055,024
Net Earnings		$ 36,054,334
Other Income		15,106,957
		$ 51,161,291
Fixed Charges		19,547,129
Net Income		$ 31,614,162
Dividends:		
Preference Stock		
2% paid August 1, 1945	$ 2,521,391	
2% payable February 1, 1946	2,510,109	
	$ 5,031,500	
Ordinary Stock		
2% paid October 1, 1945	6,700,000	
		11,731,500
Balance transferred to Profit and Loss Account		$ 19,882,662

Profit and Loss Account

Profit and Loss Balance December 31, 1944		$251,715,008
Final dividend of 3 per cent. on the Ordinary Stock, declared from the earnings of the year 1944, paid March 31, 1945		10,050,000
		$241,665,008
Balance of Income Account for the year ended December 31, 1945	$ 19,882,662	
Portion of steamship insurance recoveries representing compensation for increased cost of tonnage replacement	712,258	
Net exchange credit in respect of expenditures for new steamships and steamship insurance recoveries	323,785	
Miscellaneous—Net Credit	189,115	
		21,107,820
Profit and Loss Balance December 31, 1945, as per Balance Sheet		$262,772,828

(The final dividend of 3 per cent. on the Ordinary Stock for the year 1945 which was declared subsequent to the end of the year and is payable March 30, 1946, amounting to $10,050,000, is not deducted from the Profit and Loss balance shown above.)

Railway Earnings and Expenses

GROSS EARNINGS from the transportation of freight, passenger, and incidental railway services amounted to $316,109,358 in 1945. This is barely one per cent. less than the record earnings of 1944.

Charges for services continued at the pre-war level which prevailed when price-fixing regulations were imposed in 1941.

The volume of traffic handled exceeded that carried by all Canadian railways in any of the immediate pre-war years and this accomplishment, after five years of wartime stresses, emphasizes in telling fashion the effectiveness of the teamwork of your officers and employees.

WORKING EXPENSES for the year totaled $280,055,024, and were the largest in the history of your Company. Payrolls charged to operating expenses were $133,592,959, taking 42 cents of each dollar earned, as compared with 41 cents in 1944. At the same time the proportion of the earnings dollar required for material, supplies, taxes and other expenses increased from 45 cents to 47 cents.

NET EARNINGS, as a result of the fixed level of charges for services and the higher costs of operation, were smaller, in proportion to gross earnings, than at any time in the past.

The results of railway operations in 1945, compared with 1944, are shown in the following table:

	1945	1944	Increase or *Decrease*
Gross Earnings	$316,109,358	$318,871,034	*$2,761,676*
Working Expenses (including taxes)	280,055,024	275,711,370	4,343,654
Net Earnings	$ 36,054,334	$ 43,159,664	*$7,105,330*
Expense ratios:			
Including taxes	88.59%	86.46%	2.13
Excluding taxes	81.66%	78.92%	2.74

FREIGHT EARNINGS accounted for $227,707,486, or 72% of the gross earnings, a reduction of $5,410,987 from last year's all-time record. Approximately one-half of this reduction was in the earnings from grain and grain products. The wheat crop on the Prairies, estimated to be 280 million bushels, was considerably below the 1944 harvest of 390 million bushels, and grain loadings on your Company's western lines dropped 44 million bushels. This was offset to some extent by a greatly increased all rail movement of grain from the Lakehead and Georgian Bay ports to St. Lawrence and Atlantic coast ports.

The virtual cessation of the manufacture of war supplies in the last half of the year had the effect of lowering the general level of productive operations throughout the Dominion, with the result that revenues from traffic other than grain also showed a decrease.

A total of 54,822,012 tons of freight was carried an average distance of 497 miles—bringing ton miles for the year to more than 27,251 millions. The average revenue received for hauling one ton a distance of one mile was 0.83 cents, a decline of 0.02 cents from the previous year. In the decade prior to the war the average revenue per ton mile was 0.97 cents.

PASSENGER EARNINGS slightly exceeded those of 1944 and accounted for $56,854,297, or 18% of the gross earnings. The repatriation of service personnel and other military movements crowded into the last half of the year frequently necessitated drastic curtailment in sleeping car and other accommodation ordinarily available to the public. Civilian travel as a result declined substantially. A total of 17,740,684 passengers was carried an average distance of 162 miles. The average revenue received per passenger mile was 1.97 cents, compared with 1.94 cents in 1944 and 1943.

OTHER EARNINGS amounted to $31,547,575, or 10% of gross earnings, and they exceeded those of the previous year by $2,105,144. Revenues from sleeping and dining car operations were higher than ever before due principally to the magnitude of the demand for such services in connection with the movement of servicemen returning to their homes all across Canada. The number of meals served on your passenger trains reached a new high mark, averaging over 12,300 daily throughout the year. There was also an increase in the volume of express service rendered.

MAINTENANCE EXPENSES, consisting principally of expenditures for repairing and renewing track, structures, motive power and rolling stock totaled $118,155,208, or 37 cents of every dollar of railway earnings. This proportion was the same as for the previous year.

The abnormally heavy use of your Company's facilities and equipment throughout the year, together with shortages of labor and material, particularly in the summer months, made it impossible to maintain them to the accepted standard of pre-war condition. Provision in the amount of $5,250,000 was made in the year's accounts for maintenance which was necessarily deferred.

There were expended on the maintenance of roadway, bridges and buildings 36,628,000 man-hours of labor in 1945. The work performed included the placing in track of 1,609,177 treated and 1,556,228 untreated ties and the laying of 609 miles of new rail. The Sperry detector car, which is used in the examination of

rails for hidden defects, covered 8,747 miles of track. Ballasting operations were again at a restricted level, only 750 thousand cubic yards of gravel ballast being applied. The unusually severe snow conditions which were encountered in the early portion of 1945 saddled maintenance expenses with heavy charges and the snow plow mileage exceeded that operated in 1944 by 60%.

During the year, 39,756,000 man-hours of labor were expended on the maintenance of rolling stock. Heavy repairs were given to 750 locomotives and 28,117 freight train cars. Passenger train cars given general overhauling totaled 1,157.

As part of the policy of continually improving the standard of equipment when units are shopped for repairs, stabilized trucks were applied to 215 refrigerator cars; arch bar truck frames on 1,541 freight cars were replaced by cast steel truck frames; and the braking systems on 1,457 freight cars were renewed with air braking of modern design. Generator direct drives were installed on 62 passenger cars to replace belt-drives.

TRANSPORTATION EXPENSES amounted to $114,725,361, taking 36 cents of every railway dollar earned as compared with 35 cents in 1944. The allowance of holidays with pay to employees in the running trades became effective during the year for the first time. Higher prices for locomotive fuel added approximately $800,000 to expenses.

Notwithstanding the severe winter weather encountered at the beginning of the year and the frequent recurrence of adverse operating conditions in connection with the repatriation of service personnel, the level of efficiency was well maintained. The following averages are indicative:

	1945	1944
Freight Train Load—gross tons	1,790	1,785
Freight Train Speed—miles per hour	16.1	16.2
Freight Car Movement—miles per car day	48.2	47.8
Gross Ton Miles per Freight Train Hour	28,873	28,913
Passenger Miles per Train Mile	138	141

OTHER WORKING EXPENSES amounted to $47,174,455, a decrease of $360,438. Railway tax accruals were $21,933,197, of which $18,200,000 represented the provision for Dominion Income and Excess Profits Taxes. Since the beginning of the war your Company has paid to the Dominion Government a total of $103,400,000 in Income and Excess Profits Taxes.

Other Income

Other Income amounted to $15,106,957, an increase of $2,735,642.

All vessels in your ocean-going fleets, and one of your coastal ships, remained in operation throughout the year under charter to the Government of the United Kingdom. An adjustment in rates of hire for certain vessels and the settlement of various claims which had been outstanding contributed to an improvement of $936,124 in the net earnings.

Hotel net earnings were better than in any past year. The improvement over 1944 was $645,024. Large scale demand for accommodation at your city hotels existed throughout the year and a record volume of business was handled. Your resort hotels remained closed in 1945.

The net earnings of the communications department increased $206,447. Following the cessation of hostilities your communication services were utilized more extensively by the public and revenues for the year were substantially higher.

Dividends paid by The Consolidated Mining and Smelting Company of Canada, Limited, were again at the rate of $2.50 per share.

Net income from interest, exchange, separately operated properties and miscellaneous sources increased $950,417. Interest received from the Minneapolis, St. Paul & Sault Ste. Marie Railroad Company Income Bonds, which were acquired by your Company through reorganization of the Soo Line in 1944, amounted to $137,652. Exchange account and net results from the operations of separately operated properties improved. There was a decline in the management fees under your Company's contracts with the Government for the production of munitions, and reduced farm income in Western Canada adversely affected interest payments on farm land contracts.

Fixed Charges

Fixed charges amounted to $19,547,129. This was a decrease from 1944 of $1,284,020 and a decrease of $7,306,627 from their maximum in 1938. Fixed charges have now been brought back to the level of 15 years ago.

Net Income and Dividends

Net income for the year amounted to $31,614,162 as compared with $34,699,830 in 1944, a decrease of $3,085,668. Dividends declared out of the year's earnings amounted to $21,781,500. The dividends on Preference Stock and Ordinary Stock were 4 per cent. and 5 per cent., respectively, the same as for the previous year.

Land Accounts

During the year 278,932 acres of agricultural lands were sold for $1,603,044, an average price of $5.75 per acre. Included in this total were 638 acres of irrigated land, sold at an average price of $55.05 per acre.

Cash received on land account totaled $7,637,988, including $660,760 derived from the leasing of coal, gas and petroleum rights. Disbursements for land and irrigation expenses, including taxes, were $1,257,523, leaving net cash receipts of $6,380,465. This was a decrease of $430,706 from the previous year.

Certain concessions to contract holders were again approved for the crop year 1945-46. The assistance to holders of farm contracts since this policy was inaugurated in 1932 has amounted to $25,614,264.

Balance Sheet

The total assets of your Company at the end of the year amounted to $1,605,895,632, an increase during the year of $22,817,733. The net increase in property investment was $20,551,013, the additions and retirements being summarized for each of the various classes of property in a supporting schedule accompanying the Balance Sheet. The purchase of the line of railway in British Columbia between Princeton and Otter Summit, referred to in the 1944 Annual Report, was completed during the year. Among the larger retirements is that of the "Empress of Russia," which was destroyed by fire in September, 1945, while under charter to the British Government.

Current assets at the close of the year exceeded current liabilities by $82,854,705 or 175%. At the end of the previous year the excess was $88,484,875.

Finance

Serial equipment obligations, totaling $7,214,000, matured and were paid.

On October 1, City Bank Farmers Trust Company entered into an agreement under which $20,000,000 principal amount of Equipment Trust Certificates was issued, guaranteed as to principal and interest by your Company. This issue, designated as Series "H," maturing in equal semi-annual instalments from April 1, 1946, to October 1, 1955, inclusive, is payable in United States currency, and bears interest at 2% per annum. Under this arrangement, equipment constructed or to be constructed and costing $25,069,943 in Canadian funds is leased to your Company at a rental equal to the instalments of principal of and interest on the Equipment Trust Certificates. Pending delivery of the equipment, your Company deposited with the Trustee bonds of the Dominion of Canada and cash aggregating $25,069,943. As at December 31, units of equipment to the value of $6,273,350 had been delivered, leaving a balance on hand with the Trustee of $18,796,593, which amount is carried on the balance sheet in Other Investments as Unexpended Equipment Trust Deposit.

During the year, $1,000,000 4½% Collateral Trust Gold Bonds, maturing July 1, 1960, were purchased and cancelled. The balance of these bonds—$24,000,000—was called for redemption on January 1, 1946. The funds to meet this call were deposited with the Trustee on December 31.

The foregoing transactions resulted in the net retirement of $12,214,000 of bonds and other obligations, and a reduction of $30,268,000 in the amount of Consolidated Debenture Stock pledged as collateral.

On March 1, the 4% Second Debenture Stock of The Dominion Atlantic Railway Company, maturing July 1, 1956, amounting to £440,000, was called for redemption. Your Company placed this subsidiary in funds to meet the call. To consolidate its indebtedness, your subsidiary issued its 4% First Refunding Mortgage Bonds, maturing January 1, 1995, to the extent of $7,307,000, which have been accepted by your Company in settlement of advances made to enable your subsidiary to redeem

its First and Second Debenture Stocks and as consideration for the surrender by your Company of £292,500 4% Extension Debenture Stock, maturing January 1, 1965, and $1,700,000 4% Mortgage Bonds, maturing May 1, 1966.

Canadian Pacific Air Lines, Limited

The scale of operations of your Air Lines during the year 1945 was slightly lower than in the previous year, owing to the termination of wartime activities sponsored by the Canadian and United States Governments in Northwestern Canada. The results of operations showed a loss, after depreciation, of $308,066. The loss during the first six months of the year more than accounted for this deficit. Considerable improvement took place in the last six months, largely as a result of the expansion of mining activities throughout the country, and a profit was recorded in net income for that period.

Under contract with Trans-Canada Airlines, your Air Lines' subsidiary Yukon Southern Air Transport Limited has undertaken, as Agent for T.C.A., the operation of a service between Whitehorse, Y.T., and Fairbanks, Alaska, which was inaugurated in October last.

The aircraft operated by your Air Lines flew a total of 5,373,403 revenue miles during 1945, as compared with 5,984,602 in the previous year. Passengers carried totaled 125,110 as compared with 104,166; freight transported was 9,419,556 pounds, compared with 8,027,442 pounds, and mail amounted to 1,253,537 pounds, compared with 1,436,153 pounds.

During the year all activities of your Air Lines in the Overhaul Plants operated for the Department of Munitions and Supply and in the British Commonwealth Air Training Plan came to a close.

Advances to the amount of $400,000 were repaid by your Air Lines during the year, reducing your investment to $7,000,000.

The Air Transport Board has commenced the review of existing licenses and a number of applications are being made by independent operators for licenses for charter services and services between specific points which might result in some duplication of services presently being operated by your Air Lines. In such cases briefs have been filed with the Board to protect the interests of your Air Lines.

Minneapolis, St. Paul & Sault Ste. Marie Railroad Company

During the year your Company exercised its option to acquire 33% of the stock of the newly organized Minneapolis, St. Paul & Sault Ste. Marie Railroad Company allotted to others in the plan of reorganization. $364,980 was paid for this stock, at the rate of $2.00 per share. Your Company now owns 49.94% of the capital stock of the Soo Line. In conformity with the terms under which this option was given, the traffic agreement executed in 1944, and referred to in the Annual Report for that year, has been extended for a period of eight years beginning January 1, 1951.

The Wisconsin Central Railway Company, of which your Company holds First and Refunding Mortgage Bonds in principal amount of $8,409,042, continues to be operated by the Soo Line as agent for the Trustees of the Wisconsin Central. Two plans of reorganization for that company have been filed with the Interstate Commerce Commission by committees representing groups of bondholders. These plans contemplate a continuance of the present operating arrangement. A public hearing was held before one of the Commission's examiners commencing October 30th. His report has not yet been issued.

Net earnings of the Soo Line in 1945 amounted to $2,804,235. After fixed charges and other deductions, net income was $1,754,433.

The Duluth, South Shore and Atlantic Railway Company

The plan of reorganization embodying the terms of the compromise agreed upon between your Company and the representatives of the holders of a substantial portion of the First Mortgage Bonds, which was referred to in the last Annual Report, is expected to be filed with the Interstate Commerce Commission and with the Court, during the current year.

An appeal by Louis Lober from the decision of the Court which denied his petition for subordination of the claims of your Company to those of the owners of the First Mortgage bonds was dismissed by the United States Circuit Court of Appeals. A petition to remove the case to the United States Supreme Court has been denied.

Net earnings of the South Shore were $410,141 compared with $642,880 in 1944.

Research and Development

A Department of Research, the need for which had become increasingly apparent, was established on February 1, 1945, with headquarters at Montreal. Its function is to carry on scientific and technical studies and to make recommendations for improvements and economies in various phases of your Company's operations. Satisfactory progress has been made in the organization of the Department and the advancement of specific projects which have been under study.

Public Relations

A Department of Public Relations was established on August 1, 1945. The new department will integrate the work of the former General Publicity Agency, including its Advertising Branch, the Press Bureau and the Exhibits Branch, and will devote special attention to all phases of your Company's activities which have a bearing on public relations. It will insure that your Company's rail, steamship, hotel and other services are effectively publicized and that the public and your employees are fully informed on matters of interest to them.

Rates and Services

Freight and passenger rates remained unchanged throughout the year. It is informative to record the extent to which the gross earnings of your Company would have expanded in each of the years since 1941 had the charges for its services increased in line with the advances in the index of Canadian wholesale prices. The basis of the computations is indicated in the following table:

Year	Price Index Yearly Average (October 1941 = 100)	Actual Earnings (in millions)	Computed Earnings (in millions)
1942	101.9	$ 257	$ 262
1943	106.6	297	317
1944	109.3	319	349
1945	109.9	316	347
Totals 1942-1945		$1,189	$1,275

Thus in the four year period your Company's earnings would have been $86 million greater if its rates had kept abreast of prices generally.

The world-wide services of your Company have played no small part in bringing the Dominion of Canada to the favorable attention of the peoples of many lands. Prior to the war your Company maintained representation in 22 countries of continental Europe, in 15 countries and territories in the Far East, in Australia and New Zealand and in the West Indies, as well as the United Kingdom and the United States. These agencies greatly facilitated both trade and travel and created much good will for Canada. With the outbreak of war it was necessary to close all agencies located in Europe and the Far East, with the exception of those not in the combat area. Since hostilities ceased, some of these agencies have been re-opened and plans are being made for the re-opening of others as and when business conditions warrant.

New sleeping car comforts, featuring a bed which folds into the wall by day, have been incorporated in certain sleeping cars being rebuilt in your shops. These cars will provide a practical laboratory for testing the new features for possible inclusion in new equipment. The programme of modernizing passenger equipment, providing more colorful and comfortable interiors, has been proceeded with as priorities for materials permitted. In addition, experiments have been made with a passenger train car fitted with free-wheeling axle units to test the degree of improvement obtainable in riding qualities.

Re-establishment of Veterans

It has been the concern of your officers to develop policies for the employment of veterans going beyond the requirements of The Reinstatement in Civil Employment Act. Every effort is being made to insure that returning employees may benefit to the fullest extent from such added skill, knowledge, and experience as they acquired in the course of their war service. Where advisable, re-training has been provided to enable employees to resume their duties with confidence and assurance, and every encouragement has been extended to those who desired to take

advantage of Government assistance in procuring vocational or academic training.

More than 4,800 employees, who had been on leave of absence with the Armed Forces or engaged in special war services under direction of the British Admiralty, had returned to peacetime employment with your Company by the end of the year. In addition, some 6,300 veterans who had no prior service with your Company had been placed in positions, a development which indicates the broad approach taken toward the problem of re-establishment.

Steamship Replacement

Two ships, the Beaverdell and Beaverglen, were launched on the Clyde during the year. The keels of two more ships of the same class have been laid. Improved performance and economy of operation have been sought in the design of the new Beavers and they are being fitted with the latest navigational aids, including radar equipment. Their speed will be 16 knots. Each vessel will have 163,000 cu. ft. of refrigerated space for perishable traffic.

The early release from Government service of two of your passenger ships is anticipated and agreements have been executed with ship-builders for their reconditioning. The resumption of service on both the Atlantic and the Pacific, as well as improvements in the service on the British Columbia coast, is the immediate aim of your Directors.

Capital Appropriations

In anticipation of your confirmation, capital appropriations in addition to those approved at the last annual meeting were authorized by your Directors during the year in the amount of $5,048,226. Included was a provision of $3,866,567 for the construction of a fourth Beaver class vessel.

Your approval will also be requested for capital appropriations of $42,039,447 for the year 1946. The principal items are as follows:

Additions and betterments to stations, freight sheds, coaling and watering facilities and engine houses	$ 2,814,995
Replacement and enlargement of structures in permanent form	1,019,374
Tie plates, rail anchors and miscellaneous roadway betterments	1,360,936
Replacement of rail in main line and branch line tracks with heavier section	1,086,640
Installation of automatic signals	1,681,092
Additional terminal and side track accommodation	1,445,757
Additions and betterments to shop machinery	1,017,258
New rolling stock	16,840,399
Additions and betterments to rolling stock	1,095,802
Ocean and Coastal steamships	12,684,593
Additions and betterments to communication facilities	764,507

The appropriations for new rolling stock make provision for 40 Pacific type steam locomotives, designed primarily for branch line working, and 14 Diesel switching locomotives; 1,750 freight train cars and 52 work units. The appropriations for Ocean and Coastal steamships provide for the purchase of two ships from the Government of the United Kingdom and for the construction of two coastal passenger steamers. The cost of these vessels will be met out of the Steamship Replacement Fund which has been accumulated for this purpose.

Agricultural Policies

In 1935 your Directors reported that the Eastern Section of your Company's Irrigation project in the Province of Alberta had been transferred to the Board of Trustees of the Eastern Irrigation District, in accordance with the policy of encouraging the water users to undertake the operation of the system. In furtherance of this policy your Company has recently transferred the entire undertaking and works comprised in its Western District to the Board of Trustees of the Western Irrigation District.

The Agreement under which the transfer was made has been validated by act of the Alberta Legislature and provides for the assumption by the District of the liability of your Company to maintain and operate the system. The agreement further provides for the payment of $400,000 by your Company to the Board for the maintenance, operation, renewal and repair of the irrigation system transferred and, in addition, $20 per acre for all areas of irrigable land included in water agreements transferred, as compensation for the assumption by the Board of the contractual obligations of your Company for the delivery of water under these agreements. Your Company's total cash obligations under the agreement amount to $533,800, of which $100,000 remains to be paid on April 1, 1946. Your Directors believe that a substantial annual saving in expenses will be effected by this outlay and that a sound basis for the future prosperity of the District has been established.

Joint Purchase of the Assets of the Connecticut and Passumpsic Rivers Railroad Company

The joint offer of your Company and Boston and Maine Railroad to purchase certain lines of railway and other assets and property in the State of Vermont and the Province of Quebec, as provided for in the agreement dated April 6, 1945, which received your approval at the last Annual Meeting, was made and was accepted by The Connecticut and Passumpsic Rivers Railroad Company. Application has been made to the Interstate Commerce Commission for its approval.

If, as is expected, such approval is obtained, the line of railway extending from Wells River, Vermont, to the International boundary, a distance of approximately 69 miles, will be conveyed to Newport & Richford Railroad Company, whose capital stock is to be acquired by your Company, and there will be submitted for your consideration and approval a lease of the line from Newport & Richford Railroad Company to your Company. The lease will be for a term of 999 years, will provide for a rental equal to the interest on any bonds or other financial obligations secured on said line of railway and will replace the existing thirty-year lease of the line, which is to be cancelled.

It is also expected, as part of the same transaction, that there will be submitted for your consideration and approval an assignment from The Connecticut and Passumpsic Rivers Railroad Company to your Company of the unexpired term of a lease for 999 years of the railway of Massawippi Valley Railway Company extending from the International boundary to Lennoxville, in the Province of Quebec, a distance of approximately 32 miles. The rental under the lease will be $24,000 per annum, being an annual dividend of $6.00 per share on 4,000 shares of the capital stock of Massawippi Valley Railway Company.

Stock Holdings

The holdings of the Capital Stock of your Company at December 31 were as follows:

	Ordinary		Preference		Total
	No. of Holdings	Percentage of Stock	No. of Holdings	Percentage of Stock	Percentage of Stock
Canada	22,267	14.60	158	.55	10.44
United Kingdom and other British	13,476	47.24	26,987	96.47	61.82
United States	18,605	31.89	74	.34	22.54
Other Countries	3,506	6.27	562	2.64	5.20
	57,854		27,781		

Directorate

It is with deep regret that your Directors report the death on November 19, 1945, of Mr. Selwyn Gwillym Blaylock, who had been a member of the Board since December, 1942.

Mr. Blaylock, a distinguished citizen of Canada, achieved international renown and received many honors for his contributions to the science of metallurgy and electro-chemistry; his development of the great plant at Trail, B. C., was recognized as an outstanding achievement. His interest in community welfare was noteworthy and his relations with labor were such as to give him a place of distinctive leadership, while his wide and accurate knowledge of conditions associated with industrial enterprise enabled him to render valuable service as a Director of your Company.

It is also with deep regret that the Directors have to report that since the close of the year your Company has suffered a severe loss in the death of Major-General Frank S. Meighen, C.M.G., who rendered valued service as a Director for a period of over thirty years, having been so appointed in October, 1915.

The Rt. Hon. Sir John Anderson, G.C.B., G.C.S.I., G.C.I.E., M.P., London, was appointed a Director to fill the vacancy occasioned by the death in 1943 of the Rt. Hon. Reginald McKenna, P.C., and Mr. Edwin G. Baker was appointed a member of the Board to succeed Major-General Frank S. Meighen, C.M.G.

The undermentioned Directors will retire from office at the approaching Annual Meeting. They are eligible for re-election:

Rt. Hon. Sir John Anderson, G.C.B., M.P.
Mr. L. J. Belnap
Hon. Eric W. Hamber
Mr. Ross H. McMaster
Mr. Morris W. Wilson, C.M.G.

Officers and Employees

Many tributes have been rendered to the efficiency and the sense of public responsibility displayed by Canadian railway workers of all ranks in the performance of their vital wartime task. Your Directors are proud to join in these tributes and to express their particular admiration of the accomplishments of the officers and employees of your Company.

During the war much anxiety was felt for those employees who in peacetime had been sent to the Far East in the service of your Company and who were interned by the Japanese. The satisfaction occasioned by their deliverance at the conclusion of the war was tempered only by the knowledge that three had died while in enemy hands.

It is with deep regret that your Directors record that 658 employees, serving in the armed forces or specially engaged under direction of the British Admiralty, lost their lives in the titanic struggle against evil and tyranny. Their names will ever be remembered and honored.

For the Directors,

D. C. COLEMAN, *President.*

MONTREAL, MARCH 11, 1946.

Canadian Pacific Railway Company
General Balance Sheet, December 31, 1945

Assets

PROPERTY INVESTMENT:		
Railway, Rolling Stock and Inland Steamships	$841,233,381	
Improvements on Leased Property	99,262,694	
Stocks and Bonds—Leased Railway Companies	133,481,665	
Ocean and Coastal Steamships	40,091,223	
Hotel, Communication and Miscellaneous Properties	97,501,149	
		$1,211,570,112
OTHER INVESTMENTS:		
Stocks and Bonds—Controlled Companies	$ 69,743,699	
Miscellaneous Investments	47,285,852	
Advances to Controlled and Other Companies	5,803,641	
Mortgages Collectible and Advances to Settlers	1,513,178	
Deferred Payments on Lands and Townsites	16,602,926	
Unsold Lands and Other Properties	15,826,541	
Unexpended Equipment Trust Deposit	18,796,593	
Maintenance Fund	25,200,000	
Insurance Fund	11,122,713	
Steamship Replacement Fund	46,186,215	
		258,081,358
CURRENT ASSETS:		
Material and Supplies	$ 32,298,728	
Agents' and Conductors' Balances	15,486,672	
Miscellaneous Accounts Receivable	15,756,306	
Dominion of Canada Securities	20,790,000	
Cash	45,713,753	
		130,045,459
UNADJUSTED DEBITS:		
Insurance Prepaid	$ 229,363	
Unamortized Discount on Bonds	4,963,632	
Other Unadjusted Debits	1,005,708	
		6,198,703
		$1,605,895,632

Liabilities

CAPITAL STOCK:		
Ordinary Stock	$335,000,000	
Preference Stock—4% Non-cumulative	137,256,921	
		$ 472,256,921
PERPETUAL 4% CONSOLIDATED DEBENTURE STOCK	$327,067,729	
Less: Pledged as collateral to bonds and equipment obligations	31,629,500	
		295,438,229
FUNDED DEBT		93,669,000
CURRENT LIABILITIES:		
Pay Rolls	$ 5,248,725	
Audited Vouchers	9,664,647	
Net Traffic Balances	3,314,585	
Miscellaneous Accounts Payable	9,544,012	
Accrued Fixed Charges	1,285,491	
Unmatured Dividend Declared	2,510,109	
Other Current Liabilities	15,623,185	
		47,190,754
DEFERRED LIABILITIES:		
Dominion Government Unemployment Relief	$ 1,447,223	
Miscellaneous	4,357,711	
		5,804,934
RESERVES AND UNADJUSTED CREDITS:		
Maintenance Reserves	$ 25,200,000	
Depreciation Reserves	281,528,223	
Investment Reserves	3,707,306	
Insurance Reserve	11,122,713	
Contingent Reserves	5,188,998	
Unadjusted Credits	5,785,961	
		332,533,201
PREMIUM ON CAPITAL AND DEBENTURE STOCK		34,458,562
LAND SURPLUS		61,771,203
PROFIT AND LOSS BALANCE		262,772,828
		$1,605,895,632

ERIC A. LESLIE,
Vice-President and Comptroller.

TO THE SHAREHOLDERS,
CANADIAN PACIFIC RAILWAY COMPANY:

We have examined the above General Balance Sheet of the Canadian Pacific Railway Company as at December 31, 1945, the Income and Profit and Loss Accounts for the year ending on that date and other related schedules, and have compared them with the books and records of the Company.

The records of the securities owned by the Company at December 31, 1945, were verified by an examination of those securities which were in the custody of its Treasurer and by certificates received from such depositaries as were holding securities in safe custody for the Company.

In our opinion the General Balance Sheet, Income and Profit and Loss Accounts and the other related schedules are properly drawn up so as to fairly present the financial position of the Company at December 31, 1945, and the results of its operations for the year then ended, according to the best of our information and the explanations given to us and as shown by the books of the Company.

PRICE, WATERHOUSE & CO.,
Chartered Accountants.

Montreal, March 8, 1946.

[Advertisement]

Financial

(*Continued from page 841*)

pany, three new directors were elected: Carl A. Swanson of the C. A. Swanson Company, Omaha, Neb.; Harry G. McNeely, president of the St. Paul Terminal Warehouse, St. Paul, Minn.; and Arthur R. Seder, vice-president and controller of the railroad.

CHICAGO & WESTERN INDIANA.—*Annual Report.*—Selected items from the income statement follow:

	1945	1944
Railway operating revenue	$158,892	$150,018
Railway operating expenses	400,514	399,310
Net operating loss	$241,622	$249,292
Rent income	1,850,872	1,731,970
Other income (chiefly from lease of road and equipment)	2,109,038	2,102,633
Total non-operating income	$3,959,910	$3,834,603
Gross income	$3,718,288	$3,585,311
Rents payable	$12,284	$15,444
Railway tax accruals	619,555	419,984
Miscellaneous	61,603	63,279
Fixed charges	2,806,704	2,830,462
Total deductions	$3,500,146	$3,329,169
Net income	$218,142	$256,142

DENVER & RIO GRANDE WESTERN.—*Stock of Rio Grande Motor Way.*—Division 4 of the Interstate Commerce Commission has authorized this road's bus and truck operating subsidiary, Rio Grande Motor Way, to issue an additional 5,696 shares of common stock, of which 184 shares will be exchanged for an equal number of shares of void stock outstanding and 5,512 shares will be sold to the railroad at $184 per share, in order to provide the subsidiary with more working capital and with funds for the purchase of new equipment.

DETROIT & MACKINAC.—*Annual Report.*—The 1945 statement of this company shows operating revenues of $1,039,654, compared with $1,016,204 in 1944. Operating expenses were $855,395, compared with $869,293. The net deficit amounted to $2,371, compared with a net deficit of $19,439.

DULUTH, MISSABE & IRON RANGE.—*Annual Report.*—Operating revenues of this road in 1945 were $39,216,250, compared with $40,600,071 in 1944. Operating expenses totaled $21,599,381, compared with $20,089,076. The balance of net income transferred to earned surplus amounted to $14,397,338, compared with $8,329,545.

ERIE.—*Promissory Notes.*—This road has filed with the Initerstate Commerce Com-

mission a supplemental application in Finance Docket No. 15065, seeking authority to issue not exceeding $1,890,000 of promissory notes to finance in part the acquisition, under conditional sales agreements, of 700 box cars from the American Car & Foundry Company. The most favorable bid received for the notes was that of the Chase National Bank of New York, which named a 1.5 interest rate for the notes at par; and this has been accepted subject to commission approval. The notes would mature in 40 equal quarterly installments beginning September 1. Previous commission orders in this proceeding have authorized issuance of promissory notes in the amount of $1,848,000 in connection with the acquisition of 600 gondolas; and $350,000 in connection with the acquisition of 100 hopper cars.

GREAT NORTHERN.—*Refunding.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $25,000,000 of general mortgage 2¼ per cent gold bonds, series R, due January 1, 1961, to be sold at 99.279 and accrued interest, the high bid submitted by a group headed by Morgan, Stanley & Co., which had been accepted subject to the commission's approval. The proceeds will be applied with other funds to the redemption of a like amount of general-mortgage 3⅛ per cent bonds, series K, at 105⅞ and accrued interest.

KANSAS CITY SOUTHERN.—*Annual Report.*—Net income of the K. C. S. for 1945 amounted to $5,616,863, compared with $4,418,161 for the preceding year. Operating revenues were $35,872,419, compared with $4,373,029. Operating expenses totaled $23,038,459, compared with $26,416,265. Current assets were $34,729,314, compared with $25,002,220. Current liabilities were $30,619,426, compared with $20,206,445.

LEHIGH & HUDSON RIVER.—*Annual Report.*—Net income of this road in 1945 totaled $175,217, compared with $313,898 in 1944. Operating revenues were $2,951,598, compared with $3,109,505. Operating expenses amounted to $2,545,896, compared with $2,094,848.

MAINE CENTRAL.—*Annual Report.*—The Maine Central reported that its operating revenues in 1945 were greater than in any year since 1923. Freight traffic, both revenues and ton-miles, was the highest on record. Passenger revenues, however, decreased 14.1 per cent. A condensed statement of the income account follows:

	1945	Inc. or Dec. Compared With 1944
Operating Revenues	$20,767,514	+$366,851
Operating Expenses	17,445,611	+1,912,665
Net Revenue from Operation	$3,321,903	−$1,545,814
Railway Tax Accruals	1,282,323	−1,292,426
Railway Operating Income	$2,039,580	−$253,388
Equipment and Joint Facility Rents—Net	524,747	+112,511
Net Railway Operating Income	$1,514,833	−$365,899
Other Income	587,663	−22,112
Total Income	$2,102,496	−$388,011
Deductions:		
Rental Payments	$488,596	−$285
Interest on Debt	1,144.730	−95,094
Other Deductions	40,460	−6,110
Net Income	$428,710	−$286,522

The total funded debt of the Maine Central was reduced $2,028,000 during 1945. The total funded debt unmatured amounts to $23,691,000, of which $282,000 is owned by the company.

In the report, E. S. French, president, points out that as a result of government restriction on travel, the Maine Central was unable to operate many of its summer-service trains and sleeping cars during the year but that the company now hopes to be able to provide train service comparable with its pre-war accommodations for the 1946 summer business. Greatly improved service will be available, he says, as soon as new equipment now on order is received, although due to strikes and other production delays, a delivery of new streamlined passenger equipment is not expected until 1947.

MISSOURI-KANSAS-TEXAS.—*Bank Loan.*—The Republic National Bank of Dallas, Texas, was the successful bidder on the Missouri-Kansas-Texas' $4,750,000 loan asked for last March 26. The successful bid carried an interest rate of 1¾ per cent. The loan is to be secured by prior lien mortgage 5 per cent bonds and will be used immediately to refund an equal amount of indebtedness maturing in 1948.

MISSOURI-KANSAS-TEXAS.—*Officers of Subsidiaries.*—Melrose W. Holmgreen, secretary and treasurer of the Alamo Iron Works, San Antonio, Tex., has been elected a director of the San Antonio Belt & Terminal, a subsidiary of the Katy. R. J. Morfa, D. V. Fraser, H. M. Warden, all of St. Louis, Mo., and A. S. Bird, Edwin Chamberlain, J. H. Frost and J. R. Straus, of San Antonio, were reelected directors of this company. The following officers were elected: Mr. Fraser, president; Mr. Warden, vice-president; J. F. Hennessey, Jr., vice-president; J. F. Dolard, secretary and treasurer; N. A. Phillips, assistant secretary; T. H. Simpson, assistant treasurer; C. S. Burg, general counsel; and E. N. Larson, auditor.

John D. Roberts, of the Central Texas Iron Works, Waco, Tex., and Madison Clement, of the Clement Grain Company, Waco, were elected directors of the Texas Central, another Katy subsidiary, succeeding C. S. Burg, St. Louis, Katy general counsel, and H. W. Davidson, superintendent on the Katy, at Smithville, Tex. R. J. Morfa, D. V. Fraser and H. M. Warden, of St Louis, and G. H. Zimmerman and A. T. Clifton of Waco, were re-elected as members of the board of directors. Officers selected for the Texas Central were, Mr. Fraser, president; Mr. Warden, vice-president; J. F. Hennessey, Jr., vice-president; E. D. Winslow, secretary; N. A. Phillips, assistant secretary; Clyde West, treasurer; E. N. Larson, auditor; C. S. Burg, general counsel; and G. H. Penland, general attorney.

NEW YORK, CHICAGO & ST. LOUIS.—*Refunding.*—This road has sold, subject to the approval of the Interstate Commerce Commission, $41,500,000 of refunding mortgage series F bonds to an underwriting group of 88 firms headed by Halsey Stuart & Co., Inc., on its competitive bid of 101.529 for a 3 per cent coupon rate, averaging an annual interest cost of about 2.935 per cent. The new bonds will replace the $41,796,000 of outstanding series D refunding mortgage 3¾ per cent bonds of 1945 which, upon approval by the I. C. C., will be redeemed on July 1, 1946, at a premium of 5½ per cent plus accrued interest to that date.

J. W. Davin, president of the Nickel Plate, said the sale of the new bonds netted the company $42,134,535, and that the balance of $1,960,245 needed to refund the 3¾s would come from the treasury. The operation will reduce the Nickel Plate's non-equipment debt to $99,500,000, compared with $151,662,000 at the end of 1936. Yearly interest charges will be cut to $3,458,000, compared with $7,500,000 at the start of 1937.

NORFOLK SOUTHERN.—*Annual Report.*—Net income of the Norfolk Southern last year totaled $122,424, a decrease of almost 60 per cent under the $304,413 reported for 1944. Operating revenues were $7,542,106, compared with $8,221,893, and operating expenses totaled $6,133,296, compared with $6,464,509.

PERE MARQUETTE. — *Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to assume liability for $1,300,000 of equipment trust certificates to finance in part the acquisition of equipment estimated to cost a total of $1,690,475.66 including 100 70-ton, all-steel covered hopper cars, 2 baggage cars, 2 mail and express cars, 4 coaches with lounge end, and two lounge diners. The certificates would be dated May 1, 1946, and mature in 10 equal annual installments of $130,000 on each May 1 from 1947 to 1956, inclusive. They would be sold on the basis of competitive bids, the rate (not to exceed 2 per cent) to be fixed by the successful bidder—no bid to be less than 99 per cent of par.

PERE MARQUETTE. — *Annual Report.* — Improved railroad credit is stimulating the urge of the industry to modernize plant and facilities to meet the demands for transportation and retain the public goodwill now being expressed on all sides, Robert J. Bowman, president of the Pere Marquette, said in the 1945 yearly report. The Pere Marquette, he added, contemplates expenditures of about $10,000,000 for new passenger and freight equipment, additional units of centralized traffic control and automatic signals, train communications, and terminal and roadway improvements. Deliveries of equipment valued at $3,546,660 are expected this year, including 11 Diesel-electric locomotive units, 14 streamlined passenger train cars, and 300 freight cars of various types. Four dining cars and six parlor cars were purchased from the Pullman Company at the end of 1945, and the Pere Marquette began operation of those services March 1.

Gross operating revenues in 1945 were $51,500,687, a decrease of 8.53 per cent from the peak year of 1944. Operating expenses were $45,558,794, an increase of 5.41 per cent, caused largely by an increase of $3,654,869 in amortization of defense projects to a 1945 total of $5,004,927. Net income was $2,139,121, a decrease of 28.98 per cent.

On December 31, 1945, outstanding bond-

ed debt was $49,449,000, compared with $64,535,000 in 1942, and $52,467,335 at the end of 1944. As a result of the debt reduction and refinancing program interest charges on Pere Marquette bonds and equipment debt at the end of 1945 were $1,806,965, a reduction of $1,406,083. or 44 per cent, compared with charges of $3,213,048 in 1941 before the start of the program.

RUTLAND. — *Annual Report.* — Railway operating revenues in 1945 totaled $5,049,072, a decrease of $37,625 under 1944. Railway operating expenses totaled $4,646,544, an increase of $122,765, and road and equipment depreciation amounted to $239,784, an increase of $10,257. The net deficit for the year was $639,073 as compared with $319,189 in 1944.

ST. LOUIS SOUTHWESTERN.—*Annual Report.*—Operating revenues of this road in 1945 amounted to $65,013,442, compared with $72,586,941 in the preceding year. Operating expenses were $37,283,254, compared with $33,222,783. Net income totaled $3,993,006, compared with $8,119,085.

SOUTHERN PACIFIC.—*Reduction in Bond Interest Rate.*—This road has filed with the Interstate Commerce Commission a supplemental application in Finance Docket No. 15020, seeking authority to reduce from 3¾ per cent to 2¾ per cent the interest rate on the $25,000,000 issue of Southern Pacific Railway first mortgage bonds, series D, previously approved in the proceeding. The bonds are held by the Southern Pacific Company. (See *Railway Age* of September 29, 1945, page 540.)

WESTERN PACIFIC.—*Refunding.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue $10,000,000 of 4 per cent first mortgage bonds, series B, due in 1981, provided it accepts in writing certain stipulations as to money to be paid into the sinking fund for the new bonds. It was pointed out by the division that the road, with current assets exceeding current liabilities by $26,847,808, proposes to redeem $10,000,000 of series A bonds, due in 1974, now held by the Reconstruction Finance Corporation, by issuing the new bonds at present favorable rates. The commission added that at least two items in the applicant's current assets contained cash in excess of what might be needed as reserves for certain obligations.

Thus it withheld issuance of an order approving the transaction until the applicant files written acceptance of conditions stipulating that its reserve funds of $5,400,500 for estimated 1945 income tax liabilities, and $10,100,000 for contingent tax liability, be held intact and balances not needed for those specific purposes be paid as additional amounts into the sinking fund, together with any remaining balances of a $5,300,000 fund set aside to redeem general mortgage income bonds called for redemption. Another condition would require the applicant to make a showng that it has obtained a satisfactory sales price and interest rate for the series B bonds.

WYANDOTTE TERMINAL — *Trackage Rights.*—Division 4 of the Interstate Commerce Commission has authorized this road to acquire trackage rights over 2.5 miles of the Detroit, Toledo & Ironton, between Wyandotte, Mich., and Riverview.

Average Prices Stocks and Bonds

	Apr. 16	Last week	Last year
Average price of 20 representative railway stocks..	63.68	63.66	52.60
Average price of 20 representative railway bonds..	102.33	102.89	96.92

Dividends Declared

Atlantic Coast Line.—$1.00, payable June 13 to holders of record May 16.

Atlantic Coast Line (Conn.).—$2.00, payable June 13 to holders of record May 16.

Elmira & Williamsport.—Semi-annually, $1.14, payable May 1 to holders of record April 20.

Georgia Railroad and Banking. — Quarterly, $1.75, payable April 15 to holders of record April 1.

Goshen & Deckerstown.—Annual, 40¢, payable April 20 to holders of record April 9.

Pittsburgh, Bessemer & Lake Erie.—Quarterly, 75¢, payable October 1 to holders of record September 14.

Abandonments

ATCHISON, TOPEKA & SANTA FE.—Upon petition of employee organizations, Division 4 of the Interstate Commerce Commission has extended for a further period of two years its reservation of jurisdiction with respect to the protection of employees who may be adversely affected by this road's line abandonment authorized in the Finance Docket No. 13772 proceeding.

CHICAGO, ATTICA & SOUTHERN.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon that portion of its line between Veedersburg, Ind., and Morocco, a distance of 62.1 miles, on the condition that the abandoned trackage, or any part thereof, be sold for continued operation to any responsible person offering to pay not less than the net salvage value. A previous application for abandonment was denied, the commission pointed out, because the War Department urged continued operation in order to facilitate the movement of war material during the national emergency.

DENVER & RIO GRANDE WESTERN.—This road has asked the Interstate Commerce Commission for authority to abandon 24.1 miles of its branch from Cement Quarry, Utah, and Park City. This road also has applied for authority to abandon 2.55 miles of the so-called Ontario branch, owned jointly by it and the Union Pacific, and serving mines in the vicinity of Park City, Utah.

LOUISVILLE & NASHVILLE.—This road has applied to the Interstate Commerce Commission for authority to abandon 1.34 miles of track between Connellsville, Ala., and Connellsville Junction.

TEXAS & PACIFIC.—In a proposed report on further hearing, Examiner Paul C. Albus has recommended that Division 4 of the Interstate Commerce Commission issue an order requiring this road to show cause why it should not afford protection to employees affected by the abandonment of the Cisco & Northeastern's entire line between Cisco, Texas, and Throckmorton, 65.5 miles. The C. & N. was controlled through stock ownership by the T. & P., and its property, although separately operated, was a part of the T. & P. system. "It is believed," Examiner Albus said, "that the intercorporate relationship existing between the T. & P. and the C. & N. at the time of the abandonment and the fact that the line, although separately operated, was for all intents and purposes a part of the parent company's system, and the agreement of September 16, 1932, between the Brotherhood of Railway Clerks and the T. & P. relative to the seniority rights of system employees in the office of the auditor of freight receipts at Dallas, Texas, warrant the imposition of conditions for the protection of employees upon the T. & P."

Railway Officers

EXECUTIVE

L. A. Beck, executive vice-president of the Norfolk Southern, with headquarters at Norfolk, Va., has been elected president, succeeding the late **Morris S. Hawkins,** an account of whose career appeared with

L. A. Beck

a photograph in the *Railway Age* of April 13. **H. Ray West,** assistant secretary, has been appointed assistant to president.

Mr. Beck was appointed assistant to the president—purchasing and mechanical, of the Norfolk Southern in 1928, previous to which he had been tie and timber agent for that road. He was advanced to chief purchasing and mechanical officer in 1932, with headquarters at Norfolk, then to executive assistant to president. His succeeding appointment, as executive vice-president, took place on January 24, 1946, and was announced in the February 16 issue of *Railway Age*; and his election as president occurred on March 22.

James S. Thorp, whose appointment as assistant to the president of the Delaware, Lackawanna & Western at New York was announced in the April 13 issue of *Railway Age,* was born on February 1, 1885, and entered railway service in 1902 as machinist apprentice for the Southern at Spencer, N. C. He left to attend Virginia Poly-

News Department continued on next left-hand page

Motive Power Titans

...FOR WESTERN OHIO

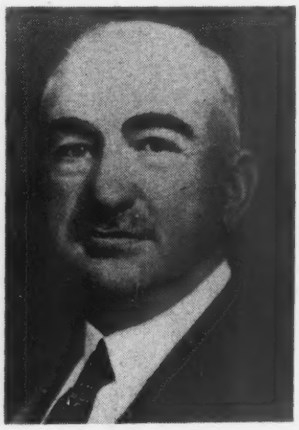
THE tonnage that must be moved on the Detroit, Toledo and Ironton lines demands motive power capable of maintaining fast schedules with tremendous loads.

For this service the D. T. & I. has steadily increased its fleet of Lima-built steam locomotives, so that today eighteen of these modern Titans are speeding the heavy traffic on which so many of Western Ohio industries depend.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

technic Institute in 1906, then joined the New York, New Haven & Hartford in 1912 as draftsman on electrification, leaving in 1913 to go with the Norfolk & Western as assistant engineer, and subsequently served in electrification and engineering projects for various companies until 1923, when he joined the Illinois Central Terminal, Chicago, as distribution engineer, advancing to assistant electrical engineer in 1927. Mr. Thorp went with the D. L. & W. in 1928 as electrical traction engineer at Hoboken, N. J., where he became electrical engineer in 1930. In 1945, he was advanced to assistant to the vice-president of operations at New York, the position he held until his recent advancement.

Edward W. Wheeler, general counsel of the Boston & Maine and vice-president and general counsel of the Maine Central and the Portland Terminal Company, has



Edward W. Wheeler

retired from railroad service. Mr. Wheeler was born at New Brunswick, Me., on April 12, 1876, and was graduated from Bowdoin College (1898, hon. A. M. 1923, hon. LL. D. 1939). After several years' railway service following his graduation from college, Mr. Wheeler resigned to practice law. In 1922, he was elected director and appointed general counsel of the Maine Central, and in 1932 became vice-president and general counsel. He was named general counsel of the Boston & Maine in 1943. Mr. Wheeler's railway directorships have included: the Portland & Rumford Falls, Portland & Ogdensburg, Dexter & Newport, Dexter & Piscataquis, and the Portland Terminal Company.

OPERATING

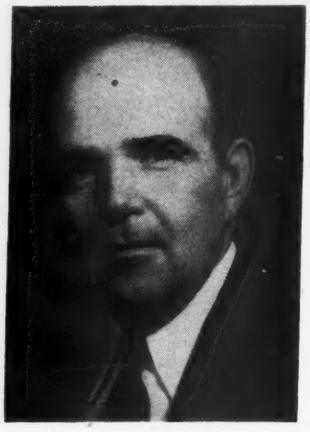
J. A. Schwab, superintendent of the Pittsburgh division of the Pennsylvania at Pittsburgh, Pa., has been promoted to general superintendent of the Southern division, with headquarters at Wilmington, Del. **Park M. Roeper,** superintendent of freight transportation of the eastern region, has been appointed superintendent of the Ft. Wayne division, with headquarters at Ft. Wayne, Ind., succeeding **David E. Smucker,** who has been transferred to the Pittsburgh division, replacing Mr. Schwab. **A. Mosby Harris,** superintendent of the Logansport division, has been appointed superintendent of freight transportation of the eastern region, relieving **Mr. Roeper.**

E. P. Adams, whose appointment as superintendent of the Wilkes-Barre division of the Pennsylvania, with headquarters at Sunbury, Pa., was announced in the *Railway Age* of April 6, was born at Meadville, Pa., and entered railway service with the Pennsylvania's transportation department at Renovo, Pa., in 1926. He advanc-

E. P. Adams

ed through various positions to the post of trainmaster on the Delmarva division in 1943, then was promoted to passenger trainmaster of the Middle division at Altoona, Pa., in December, 1944. Mr. Adams maintained the latter office until his appointment as superintendent became effective on March 30.

J. F. Beaver, whose appointment as superintendent of the Southern at Richmond, Va., was announced in the March 16 *Railway Age,* was born at Spencer, N. C., on October 3, 1903, and attended North Carolina State College. He entered the service of the Southern in 1926 as student



J. F. Beaver

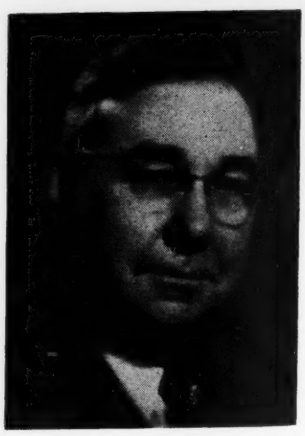
apprentice, subsequently advancing to assistant track supervisor and track supervisor. In 1942, Mr. Beaver was appointed trainmaster at Greenville, S. C., then transferred in 1944 to the Danville division at Greensboro, N. C., maintaining the latter post until his promotion to superintendent.

John H. Stevenson, whose appointment as superintendent of terminals of the Canadian National at Black Rock, N. Y., was announced in the March 16 issue of *Railway Age,* was born at Preston, in Lanca-

John H. Stevenson

shire, England. He entered railroading in the service of the Canadian National in 1920, as a stenographer at Toronto, Ont., advancing in that same year to secretary to the superintendent of motive power. In 1921, he became secretary to the general superintendent, Northern Ontario district, and in 1941, trainmaster at Linday, Ont. Mr. Stevenson was named assistant superintendent, London division, in 1942, and maintained this post until his recent advancement.

K. F. Emmanuel, assistant to the assistant general manager of the New York Central at Indianapolis, Ind., has been appointed general manager of the Peoria &



William Davis

Eastern (part of the New York Central), with the same headquarters. He succeeds **William Davis,** who has retired after 53 years of service.

Mr. Davis was born at Newport, Ky., on March 9, 1876, and entered the service of the Cleveland, Cincinnati, Chicago & St. Louis (New York Central) on December 29, 1892, as a messenger boy in the office of the chief yard clerk at Cincinnati, Ohio. He was later appointed, successively, chief clerk to the general yardmaster, and chief clerk to the assistant general manager. In

News Department continued on next left-hand page

Maximum Ton-Miles

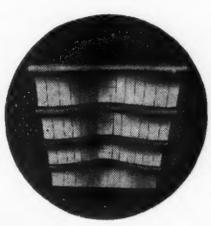
from each tender load of coal

To make certain of securing the greatest possible ton-mileage from the coal consumed, be sure the locomotive is equipped with a complete brick arch at all times.

Even considering fuel cost alone, it is unprofitable to operate any locomotive without a complete arch.

For thirty-six years the fuel-saving and power-increasing advantages of Security Sectional Arches have been demonstrated on locomotives of all types.

HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists



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60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

1913 he was promoted to inspector of transportation and general yardmaster at Indianapolis, and in 1918, he was advanced to acting superintendent, with headquarters at Cincinnati. In 1921, he returned to Indianapolis as general yardmaster and trainmaster of the terminal, and in 1929 he was promoted to superintendent of the Indianapolis terminal and the Springfield division. Mr. Davis was appointed assistant superintendent of the Indiana division with headquarters at Indianapolis in 1931, and in November, 1938, he was advanced to the position he held at the time of his retirement.

FINANCIAL, LEGAL AND ACCOUNTING

Robert J. Fletcher, general attorney of the Boston & Maine, has been appointed general counsel at Boston, Mass. **E. Spencer Miller,** assistant general counsel of the Maine Central, with headquarters at Portland, Me., has been appointed general counsel there. Both officers succeed **Edward W. Wheeler,** whose retirement from these posts is announced elsewhere in these columns.

TRAFFIC

David S. Gendell has been appointed general foreign freight agent of the Central of New Jersey at New York, and the position of general eastern and foreign freight agent has been abolished.

James E. Fitzmorris has been appointed district passenger agent of the Kansas City Southern, with headquarters at New Orleans, La., succeeding **James L. McCall,** who has resigned.

B. A. Gililland has been appointed general agent of the Missouri Pacific, with headquarters at Cleveland, Ohio, succeeding **V. K. Norbert,** who retired on April 1 after 40 years' service.

D. L. Carter, assistant freight traffic manager of the Missouri Pacific at St. Louis, Mo., has been promoted to assistant to the chief traffic officer, with the same headquarters, succeeding **W. A. Rambach,** deceased.

E. L. Dash, acting assistant general freight agent of the Reading at Philadelphia, Pa., has been advanced to assistant general freight agent, and his former post abolished. **J. F. Leibrandt** has been named division freight agent there, and the position of acting division freight agent abolished.

L. C. Bundy, northern traffic manager of the Illinois Terminal at Chicago, has been promoted to assistant general freight and passenger agent, with headquarters at Decatur, Ill. **K. L. Stivers,** general agent at Decatur, has been advanced to northern traffic manager, with headquarters at Chicago, replacing Mr. Bundy.

E. A. Compton, general agent of the Illinois Terminal at Dallas, Tex., has been promoted to traffic manager in charge of sales, service and industrial development, with headquarters at St. Louis, Mo. **J. L. Power,** assistant general freight and passenger agent at St. Louis, has been advanced to general freight and passenger agent, sales and service, with the same headquarters. The position of assistant general freight and passenger agent has been abolished. **J. P. Anderson** has been appointed general agent at Dallas, succeeding Mr. Compton.

Clyde C. Cox, whose appointment as general eastern freight agent of the Southern, with headquarters at New York, was announced in the January 5 issue of *Railway Age,* was born on September 15, 1905, at Fort Worth, Texas, and entered the service of the Southern as a stenographer in the engineering department at Chattanooga, Tenn., in 1929. He transferred to the traffic department in 1936, and served as stenographer-clerk at Chattanooga and Lexington, Ky., before his advancement to chief clerk in the division freight agent's office at Winston-Salem, N. C., in 1938. Mr. Cox was promoted to freight traffic

Clyde C. Cox

representative there in 1939, then to commercial agent at New Orleans, La., in 1941, where he became assistant general freight agent in 1943. He maintained the latter post until he was appointed general eastern freight agent at New York.

Frederick N. Nye, whose appointment as assistant to general freight traffic manager of the New York Central System, with headquarters at New York, was announced in the *Railway Age* of April 13, was born in New York on February 1, 1905, and was graduated from Columbia University. He entered the service of the New York Central as a chainman in the engineering department in 1926 and rose to the post of assistant engineer before being appointed supervising safety agent in 1941. In 1943, Mr. Nye was appointed engineering economist, office of vice-president, improvements and developments, which post he held until his recent advancement became effective on April 1.

H. C. Carson, whose promotion to assistant passenger traffic manager of the New York Central, with headquarters at Chicago, was reported in the *Railway Age* of March 16, was born at Cincinnati, Ohio, on April 1, 1882, entered railroad service in 1898 on the New York Central, and served in various minor capacities until April, 1908, when he became general agent at Dallas, Tex. In April, 1918, he was appointed passenger representative at Battle Creek, Mich., and served there until March, 1920, when he was named division passenger agent at Saginaw, Mich. Mr. Carson was appointed assistant general pass-

H. C. Carson

enger agent at Chicago in April, 1928, and promoted to general passenger agent at St. Louis, Mo., in March, 1930. In January, 1932, he was appointed assistant general passenger agent, system, at Chicago, and general passenger agent for the system, at Chicago, in October, 1945, the position he held at the time of his recent promotion.

William J. Hickey, whose appointment as assistant to freight traffic manager of the New York Central System, with headquarters at New York, was announced in the April 13 issue of *Railway Age,* was born on August 21, 1900, in Jersey City, N. J. He entered railway service with the Trunk Line Association in 1919, and had risen to the position of chief of tariff bureau when he resigned in 1932 to join the New York Central as special clerk, office of general freight traffic manager. He transferred to the office of the vice-president, freight traffic, in 1940, where he was advanced to special representative. Mr. Hickey maintained the latter post until his recent promotion became effective on April 1.

Charles K. Bothwell, whose retirement as assistant passenger traffic manager of the Missouri Pacific, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of April 6, was born on June 7, 1877, and entered railway service in March, 1894, in the operating department of the Missouri Pacific at Sedalia, Mo. From 1901 to 1914 he held various positions at different points of the road and in May of the latter year he was promoted to general agent, with headquarters at Wichita, Kan. In March, 1920, Mr. Bothwell was advanced to assistant general passenger agent at Little Rock, Ark., and in July, 1926, he became general passenger agent, with the same headquarters. In June, 1931, he was promoted to the position he held at the time of his retirement.

News Department continued on third left-hand page

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Freight Operating Statistics of Large Steam Railways—Selected

Region, road, and year		Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl. locos. & tenders	Ton-miles (*thousands*): Net-rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: Per cent B. O.	Road locos. on line: Per cent B. O.
New England Region:													
Boston & Albany	1946	362	158,687	174,630	22,588	3,519	67.6	213,937	88,312	69	..	17	19.8
	1945	362	152,129	168,905	22,450	3,173	70.2	192,350	82,503	71	..	22	23.7
Boston & Maine	1946	1,752	337,617	355,840	17,164	12,666	72.1	775,852	344,914	112	1	15	11.7
	1945	1,777	369,892	395,414	23,739	12,802	69.1	819,493	364,372	137	5	22	13.4
N. Y., New H. & Hartf.†	1946	1,815	406,247	578,937	46,752	15,029	71.9	870,578	378,388	212	30	42	19.6
	1945	1,815	485,858	611,271	60,876	17,209	68.7	1,036,635	448,147	220	6	41	17.9
Great Lakes Region:													
Delaware & Hudson	1946	846	298,609	359,997	36,475	12,322	65.6	899,568	473,791	127	64	33	14.7
	1945	846	311,133	380,379	38,760	12,593	69.4	870,112	457,202	118	52	45	20.9
Del., Lack. & Western	1946	971	318,059	357,538	42,693	13,052	70.1	852,460	399,323	121	31	21	12.1
	1945	971	349,896	417,334	77,983	13,274	71.1	861,840	409,223	153	7	42	20.8
Erie	1946	2,242	799,890	852,485	68,821	36,055	64.0	2,395,605	1,001,751	288	29	68	17.7
	1945	2,243	936,555	1,003,702	83,867	42,119	70.0	2,669,166	1,199,809	346	5	54	13.3
Grand Trunk Western	1946	1,026	247,205	256,650	2,093	1,252	70.0	449,969	199,798	66	..	9	12.0
	1945	1,026	247,205	256,650	2,093	7,252	70.0	560,919	259,556	66	2	15	18.1
Lehigh Valley	1946	1,242	315,430	342,310	50,557	13,061	67.9	898,356	443,115	119	32	18	10.7
	1945	1,247	416,196	455,353	64,858	16,581	63.9	1,155,298	549,200	159	..	10	5.9
New York Central	1946	10,328	3,440,957	3,696,909	248,941	116,793	61.8	8,228,517	3,775,325	1,079	13	305	21.8
	1945	10,331	3,255,158	3,525,888	246,558	112,916	67.9	7,629,402	3,699,575	1,121	10	240	17.5
New York, Chi. & St. L.	1946	1,656	607,320	619,882	8,340	22,840	70.4	1,428,656	638,601	154	10	27	14.1
	1945	1,656	697,105	714,374	11,146	26,653	72.3	1,694,223	807,652	183	3	19	9.3
Pere Marquette	1946	1,915	355,663	368,968	8,892	11,218	68.1	757,184	358,890	126	12	23	14.3
	1945	1,915	398,931	411,651	9,662	13,006	73.9	849,799	430,500	150	..	17	10.2
Pitts. & Lake Erie	1946	229	98,937	100,297	97	3,696	57.2	332,074	185,349	39	2	14	25.5
	1945	229	90,264	91,831	230	3,462	66.7	284,710	169,354	25	..	16	39.0
Wabash	1946	2,381	655,841	679,501	17,526	22,067	71.9	1,393,583	636,085	162	14	34	16.2
	1945	2,381	733,205	760,091	19,360	26,080	73.9	1,659,425	797,551	178	..	37	17.2
Central Eastern Region:													
Baltimore & Ohio	1946	6,103	2,152,433	2,664,605	279,961	68,901	62.1	5,027,948	2,440,494	899	33	299	19.7
	1945	6,101	2,341,287	2,887,083	313,451	77,615	68.1	5,392,390	2,696,161	957	..	217	18.5
Central of New Jersey†	1946	649	177,512	207,787	44.501	6,231	65.6	458,605	239,129	94	2	45	31.9
	1945	654	223,823	257,158	60,629	7,398	62.4	541,012	267,266	123	2	27	17.8
Chicago & Eastern Ill.	1946	910	194,441	196,727	4,006	5,152	70.3	346,026	172,380	56	1	21	26.9
	1945	912	267,407	271,516	7,388	7,867	66.7	536,974	261,013	71	2	7	8.8
Elgin, Joliet & Eastern	1946	392	117,392	125,469	3,779	3,376	65.5	258,094	133,858	66	..	12	15.4
	1945	392	136,378	141,969	5,472	3,963	67.1	305,431	166,722	63	..	14	18.2
Long Island	1946	372	33,871	35,613	16,959	390	55.7	27,736	11,677	48	..	5	9.4
	1945	372	33,063	34,665	17,068	330	57.7	23,356	10,092	48	..	3	5.9
Pennsylvania System	1946	10,033	4,098,823	4,779,803	649,322	146,202	62.7	10,347,781	4,882,429	1,904	27	255	11.7
	1945	10,024	4,353,186	5,091,426	724,247	160,086	67.5	10,857,140	5,316,286	2,034	..	181	8.2
Reading	1946	1,361	539,416	596,119	67,426	17,383	62.9	1,345,404	720,887	256	..	63	19.7
	1945	1,371	591,081	653,303	80,294	18,553	66.4	1,376,189	743,949	271	..	52	16.1
Pocahontas Region:													
Chesapeake & Ohio	1946	3,045	1,115,614	1,227,443	60,287	49,383	57.4	4,248,543	2,462,135	459	9	60	11.4
	1945	3,036	1,172,651	1,274,606	64,985	50,554	57.3	4,344,345	2,464,855	449	10	68	12.9
Norfolk & Western	1946	2,139	764,075	825,012	72,140	34,986	58.8	3,043,353	1,666,416	254	53	23	7.0
	1945	2,132	871,547	950,950	78,692	39,079	60.7	3,284,747	1,970,325	310	4	14	4.3
Southern Region:													
Atlantic Coast Line	1946	5,552	1,148,251	1,168,910	15,772	28,001	63.6	1,852,273	805,614	391	6	25	5.9
	1945	5,557	1,303,213	1,323,262	17,067	33,735	61.2	2,310,058	1,008,461	427	8	30	6.5
Central of Georgia†	1946	1,783	304,416	309,936	5,883	7,361	73.8	457,126	214,444	95	..	7	6.9
	1945	1,783	372,653	388,606	6,241	9,028	72.0	588,543	280,565	95	..	11	10.4
Gulf, Mobile & Ohio	1946	1,931	325,106	399,462	3,764	10,435	73.9	671,186	324,226	106	4	10	8.3
	1945	1,940	261,828	335,278	1,640	9,759	78.9	593,521	289,013	105	1	11	9.4
Illinois Central (incl. Yazoo & Miss. Vy.)	1946	6,605	1,487,584	1,503,788	54,468	50,644	64.4	3,551,088	1,690,171	616	27	73	10.2
	1945	6,606	1,639,971	1,669,666	30,473	60,006	66.7	4,105,656	1,989,072	656	3	53	7.4
Louisville & Nashville	1946	4,749	1,494,218	1,627,124	45,013	37,261	64.1	2,647,437	1,351,432	390	15	78	16.1
	1945	4,746	1,713,200	1,878,784	50,346	43,550	65.8	3,070,730	1,590,155	428	2	65	13.1
Seaboard Air Line*	1946	4,139	905,703	952,287	13,562	25,213	68.2	1,628,112	702,682	273	..	57	17.3
	1945	4,163	923,564	989,759	16,839	26,835	69.6	1,746,957	782,647	308	..	44	12.5
Southern	1946	6,450	1,983,961	2,017,577	33,463	45,191	70.5	2,808,085	1,281,700	580	14	117	16.5
	1945	6,471	2,252,687	2,295,880	43,533	50,515	70.8	3,193,467	1,493,491	606	..	93	13.3
Northwestern Region:													
Chi. & North Western	1946	8,062	1,071,296	1,111,305	27,896	31,452	68.3	2,101,010	990,738	379	8	121	23.8
	1945	8,069	1,072,807	1,123,653	24,155	30,758	66.7	2,156,103	968,877	363	12	111	22.8
Chicago Great Western	1946	1,445	293,537	298,335	11,487	8,718	69.0	579,252	255,473	71	..	10	12.3
	1945	1,445	300,357	309,121	8,028	9,167	73.4	584,749	267,288	73	..	9	11.0
Chi., Milw., St. P. & Pac.	1946	10,725	1,438,119	1,537,986	94,408	46,599	68.2	3,104,814	1,471,974	505	18	85	14.0
	1945	10,714	1,641,664	1,759,565	81,449	55,219	68.9	3,663,843	1,763,844	511	24	86	13.8
Chi., St. P., Minneap. & Om.	1946	1,606	234,539	253,400	16,600	5,826	65.4	411,344	186,821	89	..	29	24.6
	1945	1,606	217,543	235,883	14,437	5,012	64.7	372,363	177,561	93	12	23	18.0
Duluth, Missabe & I. R.	1946	546	30,503	30,609	769	493	59.3	32,423	14,687	25	19	16	26.7
	1945	546	29,393	29,736	1,254	475	61.4	30,688	14,825	24	15	17	30.4
Great Northern	1946	8,236	1,084,609	1,083,869	41,111	34,145	64.9	2,367,455	1,052,453	337	39	66	14.9
	1945	8,276	1,194,603	1,196,953	54,342	42,293	72.5	2,777,438	1,339,674	381	38	65	13.4
Min., St. P. & S. St. M.	1946	4,181	472,866	485,380	10,590	12,151	66.5	811,749	376,174	127	1	9	6.6
	1945	4,259	425,461	436,848	8,132	10,562	68.7	700,821	334,641	128	3	6	4.4
Northern Pacific	1946	6,576	860,803	917,931	64,568	29,784	72.6	2,015,288	1,009,895	379	7	58	13.1
	1945	6,570	985,336	1,062,561	84,059	39,721	73.6	2,682,596	1,367,755	384	14	60	13.1
Central Western Region:													
Alton†	1946	915	237,569	240,731	421	5,532	70.1	366,326	173,072	82	3	10	10.5
	1945	915	279,544	293,925	743	7,474	74.5	475,810	227,663	77	..	2	2.5
Atch., Top. & S. Fe (incl. G. C. & S. F. & P. & S. F.)	1946	13,085	2,685,373	2,853,871	156,054	92,588	67.9	6,085,319	2,525,167	802	28	171	17.1
	1945	13,115	3,410,002	3,619,255	189,682	122,731	67.5	7,989,493	3,359,947	877	6	130	12.8
Chi., Burl. & Quincy	1946	8,666	1,420,199	1,484,875	46,256	49,893	63.9	3,486,927	1,609,322	482	..	66	12.0
	1945	8,790	1,404,716	1,477,917	53,019	52,298	69.3	3,546,942	1,725,084	484	..	75	13.4
Chi., Rock I. & Pac.†	1946	7,619	1,313,136	1,357,487	25,931	38,482	65.4	2,533,542	1,100,086	359	..	100	21.8
	1945	7,716	1,428,613	1,483,166	16,666	43,900	72.8	2,735,695	1,264,432	399	..	63	13.6
Denver & R. G. Wn.†	1946	2,386	343,169	377,576	54,432	10,113	75.5	650,544	321,068	122	9	42	24.3
	1945	2,386	438,255	489,456	74,783	14,531	78.0	923,704	474,192	168	15	33	15.3
Southern Pacific—Pac. Lines	1946	8,173	1,908,057	2,154,527	370,830	77,142	72.2	4,878,171	2,102,096	747	..	167	18.3
	1945	8,179	2,280,248	2,591,297	416,044	94,175	68.1	6,141,660	2,610,090	780	2	142	15.4
Union Pacific	1946	9,777	2,478,577	2,576,194	178,744	85,653	67.1	5,672,380	2,415,569	665	143	110	12.0
	1945	9,781	3,059,497	3,262,239	273,003	111,093	70.3	7,288,070	3,266,896	822	19	76	8.3
Southwestern Region:													
Mo.-Kans.-Texas Lines	1946	3,241	530,069	542,073	10,780	13,663	70.6	857,951	387,684	114	24	29	17.4
	1945	3,241	834,447	868,572	16,945	22,591	64.2	1,516,991	700,627	155	..	17	9.9
Missouri Pacific†	1946	7,054	1,432,410	1,506,191	40,358	46,915	64.5	3,188,475	1,392,478	419	..	83	16.5
	1945	7,056	1,720,459	1,814,057	47,581	60,245	67.5	4,041,224	1,870,607	449	..	77	14.6
Texas & Pacific	1946	1,871	351,401	351,401	5,639	11,127	67.9	716,320	286,933	113	41	11	6.7
	1945	1,882	462,542	462,542	7,249	15,837	67.3	1,039,174	432,339	134	12	16	9.9
St. Louis-San Francisco†	1946	4,615	1,002,599	1,062,193	14,194	22,703	61.1	1,506,947	687,294	315	..	32	9.2
	1945	4,616	1,085,946	1,156,120	21,957	26,669	72.0	38,822	15,959	9	..	..	..
St. Louis-San Fran. & Texas	1946	156	33,987	34,829	4	606	67.6	39,492	16,901	8	..	..	..
	1945	156	37,203	37,813	3	621	73.2	717,345	320,663	88	23	28	20.1
St. Louis Southw. Lines†	1946	1,575	335,648	338,184	4,570	12,740	79.2	1,083,675	484,418	118	3	19	13.6
	1945	1,600	505,889	512,373	6,785	17,613	72.6	1,523,360	681,168	217	7	45	16.7
Texas & New Orleans	1946	4,321	878,321	880,781	15,888	24,400	75.2	2,075,248	907,673	256	..	19	6.9
	1945	4,331	1,190,465	1,193,152	36,948	30,863	65.1	1,712,442	819,622	319	..	32	9.1

Items of the Month of January, 1946, Compared with January, 1945

Region, road, and year		Freight cars on line: Home	Foreign	Total	Per Cent B. O.	G.t.m. per train-hr. excl.locos. and tenders	G.t.m. per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
New England Region:														
Boston & Albany	1946	396	5,207	5,603	0.3	20,232	1,355	559	25.1	472	27.8	7,870	209	83.2
	1945	274	6,276	6,550	0.2	16,719	1,282	550	26.0	389	21.3	7,352	245	76.3
Boston & Maine	1946	1,782	13,219	15,001	2.1	32,688	2,305	1,025	27.2	753	38.4	6,351	115	96.1
	1945	1,988	11,793	13,781	3.3	32,929	2,222	988	28.5	862	43.8	6,614	123	85.0
N. Y., New H. & Hartf.†	1946	2,249	19,843	22,092	3.7	27,062	2,150	935	25.2	529	29.2	6,725	101	78.0
	1945	2,392	24,122	26,514	3.6	27,881	2,146	928	26.0	565	31.6	7,965	120	84.8
Great Lakes Region:														
Delaware & Hudson	1946	2,773	6,089	8,862	4.1	50,668	3,029	1,595	38.5	1,671	66.3	18,066	120	59.6
	1945	3,525	7,594	11,119	3.3	44,699	2,814	1,479	36.3	1,454	57.7	17,433	128	64.2
Del., Lack. & Western	1946	4,763	12,026	16,789	4.6	39,257	2,713	1,271	30.6	758	35.3	13,266	126	81.9
	1945	5,591	16,858	22,449	3.5	29,759	2,507	1,190	30.8	610	27.8	13,595	163	85.0
Erie	1946	9,485	25,027	34,512	3.8	48,377	3,018	1,262	27.8	928	52.2	14,413	113	82.6
	1945	9,734	37,998	47,732	3.4	41,111	2,880	1,295	28.5	886	44.5	17,255	120	94.0
Grand Trunk Western	1946	3,412	7,512	10,924	4.7	36,687	1,826	711	27.6	611	31.7	6,282	102	121.4
	1945	2,005	8,726	10,731	4.0	37,447	1,974	913	28.9	808	39.1	8,161	96	129.4
Lehigh Valley	1946	7,027	15,225	22,252	3.9	48,317	2,950	1,455	33.9	657	28.5	11,509	112	79.5
	1945	6,499	28,149	34,648	2.2	35,871	2,880	1,369	33.1	546	25.8	14,207	145	105.4
New York Central	1946	53,790	102,083	155,873	3.9	35,902	2,434	1,117	32.3	760	38.0	11,792	126	101.5
	1945	48,093	129,163	177,256	2.6	31,771	2,391	1,160	32.8	724	32.6	11,552	135	98.7
New York, Chi. & St. L.	1946	3,005	12,642	15,647	4.1	43,994	2,366	1,057	28.0	1,358	69.0	12,440	104	112.9
	1945	2,220	17,110	19,330	2.4	37,873	2,468	1,176	30.3	1,385	63.3	15,733	108	121.0
Pere Marquette	1946	4,239	10,425	14,664	5.6	38,034	2,145	1,017	32.0	851	39.0	6,045	105	81.8
	1945	1,955	10,810	12,765	2.0	37,189	2,166	1,097	33.1	1,157	47.3	7,252	109	86.9
Pitts. & Lake Erie	1946	3,699	9,514	13,213	4.1	47,877	3,363	1,877	50.1	470	16.4	26,109	112	65.7
	1945	3,274	9,809	13,083	4.4	39,697	3,163	1,881	48.9	426	13.1	23,856	122	74.2
Wabash	1946	6,046	14,131	20,177	4.5	40,451	2,150	982	28.8	1,000	48.2	8,618	130	112.0
	1945	5,115	13,971	19,086	3.2	40,245	2,289	1,100	30.6	1,350	59.7	10,805	127	122.0
Central Eastern Region:														
Baltimore & Ohio	1946	38,778	50,550	89,328	4.8	28,708	2,393	1,161	35.4	938	42.6	12,899	172	84.2
	1945	33,409	61,157	94,566	3.7	26,415	2,365	1,183	34.7	948	40.0	14,256	174	92.0
Central of New Jersey†	1946	5,140	13,780	18,920	6.6	31,018	2,678	1,396	38.4	415	16.5	11,886	133	71.0
	1945	4,641	14,754	19,395	3.9	28,953	2,440	1,205	36.1	445	19.8	13,183	147	83.8
Chicago & Eastern Ill.	1946	2,277	3,818	6,095	4.8	31,340	1,807	900	33.5	940	40.0	6,111	137	87.3
	1945	1,766	4,025	5,791	2.8	34,448	2,091	1,016	33.2	1,414	63.8	9,232	132	114.5
Elgin, Joliet & Eastern	1946	6,942	7,244	14,186	1.8	14,434	2,348	1,218	39.6	299	11.5	11,015	170	87.3
	1945	8,583	8,589	17,172	2.4	14,084	2,375	1,297	42.1	327	11.6	13,720	166	101.2
Long Island	1946	37	5,564	5,601	.6	6,298	832	350	29.9	67	4.0	1,013	367	47.1
	1945	43	5,684	5,727	.3	5,705	729	315	30.6	59	3.3	875	413	46.8
Pennsylvania System	1946	129,034	119,945	248,979	6.0	34,531	2,603	1,228	33.4	640	30.6	15,698	140	86.5
	1945	127,048	134,509	261,557	3.2	30,087	2,593	1,270	33.2	675	30.1	17,108	154	91.9
Reading	1946	12,062	26,859	38,921	2.2	29,754	2,501	1,340	41.5	601	23.0	17,086	137	77.7
	1945	13,019	22,630	35,649	2.4	31,289	2,330	1,259	40.1	682	25.6	17,504	132	82.9
Pocahontas Region:														
Chesapeake & Ohio	1946	33,715	15,633	49,348	1.8	53,721	3,885	2,251	49.9	1,595	55.7	26,083	88	86.1
	1945	30,776	15,287	46,063	1.8	51,526	3,779	2,144	48.8	1,596	57.1	26,190	91	88.6
Norfolk & Western	1946	27,742	7,337	35,079	1.2	62.086	4,044	2,214	47.6	1,512	54.0	25,131	96	95.0
	1945	25,789	9,098	34,887	.4	58,747	3,835	2,090	45.8	1,563	56.1	27,088	102	108.5
Southern Region:														
Atlantic Coast Line	1946	9,523	23,150	32,673	1.6	28,675	1,622	706	28.8	822	44.9	4,681	125	95.4
	1945	8,712	24,530	33,242	1.7	29,331	1,784	779	29.9	962	52.6	5,854	118	98.1
Central of Georgia†	1946	1,726	6,870	8,596	1.4	28,159	1,505	706	29.1	888	41.3	3,880	151	105.6
	1945	1,624	7,796	9,420	.8	29,798	1,600	763	31.1	991	44.3	5,076	144	125.6
Gulf, Mobile & Ohio	1946	1,931	6,647	8,578	1.1	36,962	2,068	999	31.1	1,203	52.4	5,416	127	117.6
	1945	1,645	6,549	8,194	.9	38,950	2,272	1,106	29.6	1,100	47.1	4,806	120	99.6
Illinois Central (incl.	1946	14,488	37,322	51,810	1.1	38,744	2,447	1,165	33.4	992	46.1	8,255	147	73.5
Yazoo & Miss. Vy.)	1945	16,717	32,474	49,189	1.1	40,465	2,586	1,253	33.1	1,275	57.7	9,713	135	80.5
Louisville & Nashville	1946	25,885	15,746	41,631	4.3	27,333	1,772	904	36.3	1,012	43.5	9,180	143	118.9
	1945	26,408	18,128	44,536	3.0	27,118	1,793	928	36.5	1,132	47.1	10,808	143	132.6
Seaboard Air Line*	1946	6,106	19,533	25,639	1.9	31,654	1,841	794	27.9	875	46.0	5,476	133	103.9
	1945	5,898	19,376	25,274	1.9	32,364	1,949	873	29.2	984	48.5	6,065	127	103.9
Southern	1946	16,408	34,324	50,732	4.6	24,046	1,436	655	28.4	815	40.8	6,410	156	97.0
	1945	15,743	32,182	47,925	2.8	23,371	1,443	675	29.6	992	47.4	7,445	158	112.5
Northwestern Region:														
Chi. & North Western	1946	21,048	36,600	57,648	4.6	29,676	2,040	962	31.5	557	25.9	3,964	157	79.0
	1945	20,197	30,685	50,882	4.2	31,700	2,088	938	31.5	607	28.9	3,873	145	82.6
Chicago Great Western	1946	1,086	6,523	7,609	3.4	30,335	1,986	876	29.3	1,117	55.2	5,703	151	134.6
	1945	788	4,181	4,969	2.3	32,866	1,954	893	29.2	1,752	81.9	5,967	145	136.2
Chi., Milw., St. P. & Pac.	1946	21,290	43,894	65,184	1.9	31,269	2,184	1,035	31.6	736	34.2	4,427	137	94.1
	1945	19,749	32,631	52,380	2.3	34,707	2,254	1,085	31.9	1,065	48.4	5,311	135	102.4
Chi., St. P., Minneap. & Om.	1946	831	8,847	9,678	7.9	21,646	1,794	815	32.1	649	30.9	3,752	132	78.9
	1945	781	5,992	6,773	4.8	24,818	1,751	835	35.4	825	36.0	3,566	127	66.5
Duluth, Missabe & I. R.	1946	14,838	609	15,447	3.5	14,308	1,126	510	29.8	31	1.7	868	206	20.3
	1945	15,025	574	15,599	3.3	14,897	1,118	540	31.2	31	1.6	876	209	21.2
Great Northern	1946	20,175	17,849	38,024	2.7	32,948	2,203	979	30.8	918	45.9	4,122	124	87.6
	1945	19,575	15,582	35,157	1.9	36,294	2,341	1,129	31.7	1,182	51.5	5,222	119	88.9
Min., St. P. & S. St. M.	1946	4,946	9,087	14,033	4.5	27,774	1,744	808	31.0	868	42.2	2,902	121	119.2
	1945	5,277	5,213	10,490	4.0	28,992	1,663	794	31.7	962	44.2	2,535	114	110.0
Northern Pacific	1946	16,223	17,647	33,870	4.5	33,926	2,381	1,193	33.9	956	38.8	4,954	148	78.5
	1945	13,765	19,470	33,235	2.8	41,979	2,735	1,394	34.4	1,294	51.1	6,716	144	87.3
Central Western Region:														
Alton†	1946	2,021	6,256	8,277	.9	34,377	1,571	742	31.3	668	30.5	6,102	142	88.7
	1945	1,387	7,149	8,536	2.1	36,862	1,726	826	30.5	868	38.3	8,026	142	125.2
Atch., Top. & S. Fe (incl.	1946	38,940	38,701	77,641	4.4	42,696	2,279	946	27.3	1,042	56.3	6,225	123	101.9
G. C. & S. F. & P. & S. F.)	1945	36,607	45,555	82,162	2.8	43.661	2,363	994	27.4	1,214	65.7	8,264	120	127.0
Chi., Burl. & Quincy	1946	16,412	29,727	46,139	2.9	38,792	2,468	1,139	32.3	1,164	56.4	5,990	119	96.6
	1945	16,210	27,113	43,314	2.9	40,466	2,541	1,236	33.0	1,286	56.3	6,331	121	93.1
Chi., Rock I. & Pac.†	1946	11,241	27,651	38,892	4.4	31,922	1,953	848	28.6	923	49.4	4,658	132	102.3
	1945	9,509	23,567	33,076	3.5	33,821	1,929	891	28.8	1,228	58.6	5,286	125	109.1
Denver & R. G. Wn.†	1946	7,637	5,970	13,607	5.8	29.371	1,920	948	31.7	758	31.6	4,341	191	83.4
	1945	7,610	6,284	13,894	4.8	33,932	2,132	1,094	32.6	1,083	42.5	6,411	181	88.8
Southern Pacific—Pac. Lines	1946	22,434	39,058	61,492	3.3	37,466	2,577	1,111	27.2	1,076	54.7	8,297	115	94.0
	1945	22.804	55,119	77,923	2.3	37,796	2,720	1,156	27.7	1,059	56.1	10,294	106	110.1
Union Pacific	1946	24.273	32,492	56,765	4.3	44,282	2,334	994	28.2	1,395	73.7	7,970	137	100.0
	1945	25,725	36,701	62,426	2.9	47,096	2,415	1,083	29.4	1,621	78.5	10,774	131	128.7
Southwestern Region:														
Mo.-Kans.-Texas Lines	1946	1,693	6,942	8.635	.1	31,388	1,628	736	28.4	1,492	74.6	3,859	97	111.4
	1945	1,217	7,833	9,050	.4	33,940	1,826	843	31.0	2,195	110.3	6,973	92	171.7
Missouri Pacific†	1946	15,089	25,076	40,165	1.6	37,256	2,239	978	29.7	1,085	56.7	6,368	122	105.6
	1945	11,967	24,463	36,430	1.5	40.016	2,364	1,094	31.0	1,563	74.6	8,552	114	121.0
Texas & Pacific	1946	1,290	5,855	7,145	2.0	39,747	2,055	823	25.8	1,313	75.0	4,947	103	75.9
	1945	1,421	7,337	8,758	1.5	41,697	2,256	939	27.3	1,623	88.3	7,410	93	102.5
St. Louis-San Francisco†	1946	7,288	13,656	20,944	1.9	29,380	1,511	689	30.3	1,086	53.5	4,804	150	105.8
	1945	5,583	11,964	17,547	2.1	31,726	1,584	758	30.7	1,444	65.2	5,728	146	113.3
St. Louis-San Fran. & Texas	1946	..	300	300	2.7	24,218	1,143	470	26.3	1,739	97.6	3,300	126	126.2
	1945	...	298	298	2.7	20,851	1,066	456	27.2	1,814	91.0	3,495	124	154.7
St. Louis Southw. Lines†	1946	1,294	4,888	6,182	2.4	40,968	2,144	958	25.2	1,769	88.7	6,568	92	85.1
	1945	980	7,201	8,181	1.4	33,884	2,143	958	27.5	1,841	92.2	9,766	91	126.5
Texas & New Orleans	1946	3,958	16,000	19,958	4.2	32,180	1,751	783	27.9	1,152	54.9	5,085	96	112.1
	1945	3,741	15,978	19,719	2.7	31,705	1,762	771	29.4	1,410	73.6	6,761	96	148.2

* Report of receivers.
† Report of trustee or trustees.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

ENGINEERING & SIGNALING

J. A. Danforth, principal engineering assistant in the office of the chief engineer of the Kansas City Southern, at Shreveport, La., has been appointed special engineer on the Illinois Central, with headquarters at Chicago.

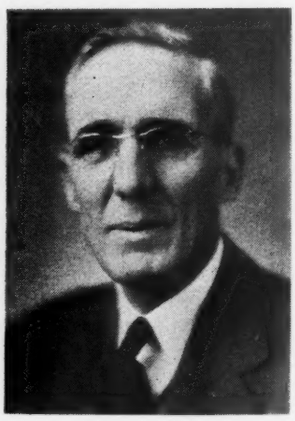
W. L. Hartzog, whose appointment as assistant bridge engineer of the Atlantic Coast Line, with headquarters at Wilmington, N. C., was announced in the March 30 issue of *Railway Age,* was graduated from the University of South Carolina with a degree in civil engineering and entered the service of the Atlantic Coast Line in 1926 as a draftsman in the bridge department, office of the chief engineer, at Wilm-

W. L. Hartzog

ington. He was subsequently advanced to junior engineer, senior assistant engineer, and engineer of design, which post he left in 1942, to accept a commission as captain in the 703rd Railway Grand Division, the A. C. L. sponsored unit of Military Railway Service. He was promoted to major in July, 1943, and appointed chief of maintenance, engineer bridges and building, headquarters 1st Military Railway Service, and served in North Africa, Italy, and Eastern France until December, 1944, when he was injured, relieved of assignment, and returned to the states for hospitalization. At the time of his separation from the service, on February 23, he held the rank of lieutenant-colonel, Corps of Engineers. Mr. Hartzog's appointment as assistant bridge engineer became effective March 1.

A. O. Wolff, district engineer of the New Brunswick district of the Canadian Pacific, with headquarters at St. John, N. B., has been appointed assistant engineer maintenance of way, with headquarters at Toronto, Ont.

H. A. Aalberg, whose promotion to assistant chief engineer of the Burlington System, with headquarters at Chicago, was reported in the *Railway Age* of April 13, was born at Minneapolis, Minn., on September 6, 1887, and received his higher education at Highland Park College. He entered railroad service on May 16, 1910, as a field draftsman on the Burlington, and served as draftsman in the assistant chief engineer's office and as instrumentman until June, 1916, when he was appointed division engineer on the Lincoln division, with headquarters at Lincoln, Neb. Mr. Aalberg served as locating engineer from May to November of 1922, and then returned to Lincoln, where he served as division engineer until February, 1923, when he was



H. A. Aalberg

transferred to Denver, Colo., in the same capacity. In February, 1937, he was advanced to assistant chief engineer, Western Lines, at Lincoln, the position he held at the time of his recent promotion.

William N. Young, whose promotion to chief engineer of the Lakefront Dock & Railroad Terminal (a joint subsidiary of the Baltimore & Ohio and the New York Central), with headquarters at Toledo, Ohio, was reported in the *Railway Age* of March 23, was born at Baltimore, Md., on August 3, 1898, and received his higher education at Baltimore Polytechnical Institute and at Johns Hopkins University. He entered railroad service in September,

William N. Young

1916, as a chainman on the Baltimore & Ohio, became rodman in October, 1916, levelman in May, 1917, and transitman on October, 1917. In April, 1926, Mr. Young was appointed field engineer at Philadelphia, Pa., and was promoted to assistant engineer, with the same headquarters, in March, 1929. In October, 1942, he was advanced to assistant to the chief engineer, at Baltimore, the position he held until the time of his recent appointment.

MECHANICAL

Frank E. Russell, Jr., whose promotion to superintendent of motive power of the Southern Pacific, with headquarters at Sacramento, Cal., was reported in the *Railway Age* of March 30, was born at Alameda, Cal., on September 18, 1905, and is a graduate of the University of California. He entered railway service in August, 1928, as a special apprentice on the Southern Pacific at Sacramento, subsequently serving as enginehouse foreman, shop foreman and assistant master mechanic at various points on the road. In June, 1941, Mr. Russell was promoted to master mechanic, with headquarters at El Paso,

Frank E. Russell, Jr.

Tex., and one year later he was advanced to assistant superintendent of motive power at Los Angeles, Cal., the position he held at the time of his new appointment.

PURCHASES AND STORES

George L. Mitchell, whose appointment as purchasing agent for the Atlantic Coast Line at Wilmington, N. C., was announced in the *Railway Age* of April 6, was born at Wilmington on November 2, 1890, and entered railroading there in 1908 in the

George L. Mitchell

legal department of the A. C. L. He then served in the executive offices in various capacities from 1913 until 1918, when he was named office assistant to the federal manager, becoming office assistant to the

(*News Department continued on next left-hand page*)

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MECHANICAL OFFICERS have many reasons for choosing Hunt-Spiller Light Weight Valves. One is the reduction in weight and frictional wear on valve bushings and valve motion parts. Another reason which looms important is the ease and speed of packing ring replacement. With the followers removed, packing and bull rings are freed, but the valve remains intact.

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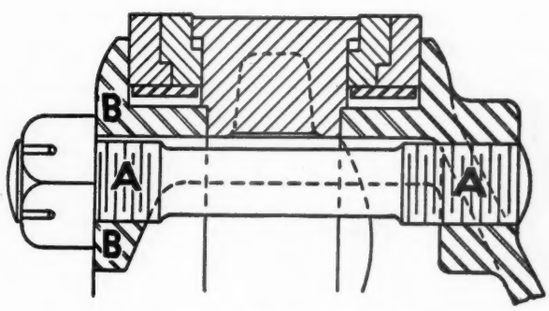

Cross section of valve packing and bull rings showing butt-welded stud bolt (A) and follower ring (B).

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executive vice-president in 1920. Mr. Mitchell was promoted to assistant to executive vice-president and assistant secretary in 1923, then advanced to assistant purchasing agent in 1942, maintaining the latter post until his recent advancement.

John U. King, whose appointment as assistant purchasing agent of the Atlantic Coast Line, with headquarters at Wilmington, N. C., was announced in the *Railway Age* of April 6, was born at Wilmington on June 30, 1887, and began his service with the A. C. L. in 1903 as a mail boy in the purchasing department, where he served in various clerical positions until 1914, when he became secretary to purchasing agent. In 1918, he was appointed chief clerk to purchasing agent, then in 1923, assistant general storekeeper. Mr. King

John U. King

advanced to general storekeeper in 1926, and held that post until his recent promotion.

L. F. Duvall, whose appointment as supervisor of reclamation for the Atlantic Coast Line, with headquarters at Wilmington, N. C., was announced in the April 6 issue of *Railway Age,* was born on Jan-

L. F. Duvall

uary 23, 1893, at Whiteville, N. C., and entered railroading in 1911 as lumber clerk in the purchasing department of the A. C. L. He became bill clerk in 1913, then served as accountant and as invoice recorder before leaving in 1917 to become an ensign in the United States Navy. Mr. Duvall returned to the A. C. L. in 1919, and held various clerical positions until 1926, when he was named assistant general storekeeper in charge of reclamation. He maintained the latter post until his recent promotion.

Leon C. Walsh, whose appointment as assistant purchasing agent of the Atlantic Coast Line at Wilmington, N. C., was announced in the April 6 *Railway Age,* was born at Florence, S. C., on February 19,

Leon C. Walsh

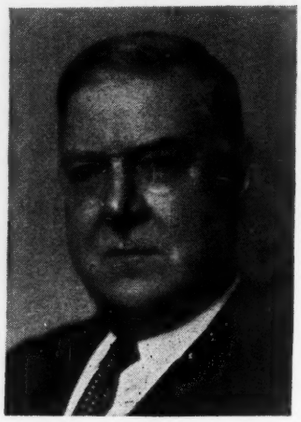
1894, and entered railway service with the A. C. L. in 1917, as clerk in the valuation department at Wilmington, where he became secretary to purchasing agent in January, 1918. In March, 1918, he began serving with the Regional Purchasing Committee, U. S. Railroad Administration, at Atlanta, Ga., returning to the A. C. L. in his previous capacity on December 1, 1926. On December 21, 1926, Mr. Walsh was named assistant chief clerk in the purchasing department, with headquarters as before at Wilmington, which post he held until his recent advancement.

SPECIAL

Paul M. Morris, formerly a member of the editorial staff of the Memphis (Tenn.) Commercial Appeal, has been appointed director of public relations of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., succeeding **James E. McKee,** who has resigned to accept a position in another field.

John Foley, forester of the Pennsylvania, with headquarters at Philadelphia, Pa., has retired after nearly 40 years of railroad service, all with the Pennsylvania.

Mr. Foley was born at New York on August 1, 1880, and began his railroad career on May 7, 1907, as first assistant forester on the Pennsylvania. From July, 1910, to February, 1912, he served as acting chief inspector of maintenance of way lumber, the duties of which position were added to those of forester, the position he assumed on February 15, 1912. On January 1, 1927, he was appointed assistant to the purchasing agent, and on May 1, 1928, to assistant purchasing agent, in which capacity he served until July 16, 1932, when he resumed the position of forester. During both World Wars, Mr. Foley was loaned by his railroad to government agencies. During World War I, he served the United States Railroad Administration as associate manager, Forest Products Section. Before, during, and after World War II, he served as head commodity specialist and technical consultant on forest products problems in the Office of Production Management, War Production Board, and Civilian Production Administration. Mr. Foley is a fellow in the Society of American Foresters, a member of the advisory board of the Charles Lathrop Pack Forestry Foundation, a past-president and honorary member of the American Wood Preservers' Association, and chairman of



John Foley

the Central Committee on Lumber Standards. In addition, he has been a member of the Committee on Ties of the American Railway Engineering Association for more than a quarter of a century; for a period of 11 years he acted as vice-chairman of the committee; and for an equal number of years he was chairman, which position he relinquished only in March last, under the rules of the association.

OBITUARY

John E. Roberts, vice-president, traffic, of the Delaware & Hudson at Albany, N. Y., died there on April 12 at the age of 66, after more than 50 years in railroading.

T. C. Frazer, chairman and general manager of the Winona, died at his home at Warsaw, Ind., on April 4.

William J. Coughtry, who retired as recorder for the Delaware & Hudson in 1938, after 48 years service, died on March 14 at his home in Nutley, N. J., at the age of 73.

G. A. Haggander, whose retirement as assistant chief engineer of the Burlington system, with headquarters at Chicago, was announced in the *Railway Age* of April 13 died at his home in La Grange, Ill., on April 14. A sketch of his career appeared in *Railway Age* of April 13, page 798.

Current Publications

Trade Publications

The du Pont Company's Part in the National Security Program, 64 pp. Published by E. I. du Pont de Nemours & Co., Wilmington, Del., free.

The scope of the war production role of E. I. du Pont de Nemours & Co. was revealed on March 7 in a special report to stockholders by W. S. Carpenter, Jr., president. During each of the last three war years, the company increased its production of chemical materials from its own plants to more than double 1939 levels. Included were nylon, plastics, rayon yarn, dyestuffs, industrial chemicals of many types, finishes, insecticides, fertilizers, pigments, photographic film, and a variety of other chemical products.

In addition, du Pont built for the Government 54 plants of various sizes at 32 different locations. Total cost of these facilities engineered, designed, and constructed for the government by du Pont's engineering department was $1,034,000,000. Du Pont - operated, government - owned plants produced military explosives, ammonia, methanol, neoprene synthetic rubber, and various chemical specialty materials with a total value of $895,000,000.

The company was called upon, in addition, to undertake a large number of highly specialized assignments, including a part in the atomic energy operation, the organization and execution of an explosives program treble that of world war I, and assistance to the Remington Arms Company, a subsidiary, in developing the greatest small arms ammunition output in history.

Despite the large increase in volume, earnings per share of common stock during the war years declined 21 per cent below the 1939-1941 average and 5 per cent under the 1936-1938 level, the report showed. At the same time, the average of du Pont sales prices declined approximately 5 per cent while the national average of wholesale prices increased 37 per cent.

Between December, 1940, and August, 1945, du Pont produced approximately 4,500,000,000 lb. of military explosives—three times its 1915-1918 output and 20 per cent above the entire volume used by all allies during World War I. Materials produced for military and home-front consumption "ranged from chemicals used in production of heavy armaments to such homely necessities as household cement," Mr. Carpenter said. Major items included: 537,700,000 lb. of rayon yarn and staple fiber; 80,000,000 lb. of nylon yarn and flake; 301,932,000 lb. of neoprene synthetic rubber; 7,700,000,000 lb. of sulphuric acid — the company's largest single bulk product; 26,153,000 lb. of "Lucite" acrylic plastic sheeting for transparent aircraft enclosures; and 40,000,000 gallons of paints and other finishes for military needs. Measured in dollar volume, more than 79 per cent of du Pont's entire output during the war was produced with its own facilities and its own capital.

The largest single du Pont undertaking of the war, Mr. Carpenter stated, was the company's part in the atomic energy project, in which du Pont designed and constructed a small-scale pilot plant at the

The ability to produce goods and employ people is not the only gauge of industrial enterprise. The real proof is how well are life and property protected against fire. What good is insurance if plants are closed down through fire or improper extinguishing methods? Modern plants install modern fire protection equipment.

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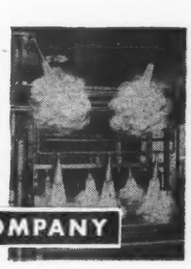

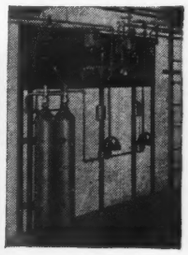

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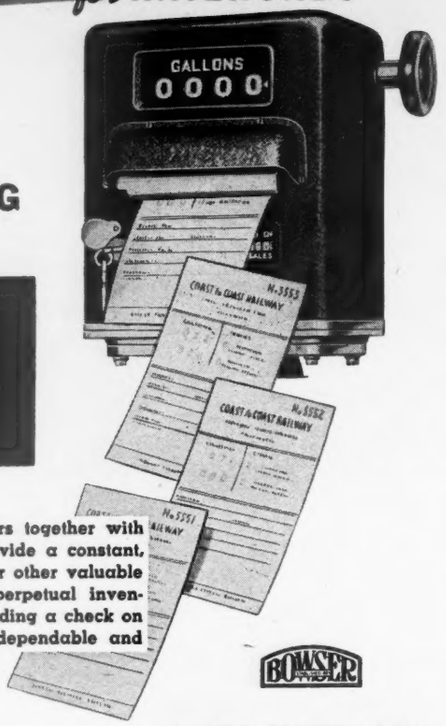

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Clinton Engineer Works in Tennessee, and designed, built, and operated the $350,000,000 Hanford Engineer Works near Pasco, Wash., for the manufacture of plutonium.

Pamphlets

Operating Statistics of Large Steam Railways—Selected Items for the Calendar Year 1945 compared with Calendar Year 1944. Published by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission, Washington 25, D. C. Free.

This is the first issue of this Statement (No. M-200), which contains freight and passenger service operating statistics for individual railroads, to be issued on an annual basis. The monthly statements appear in the *Railway Age* each month, the latest, that for December, 1945, appearing in the issue of March 16, pages 594 and 595.

The Transport Situation in Europe, compiled by the European Central Inland Transport Organization, 40, Grosvenor Square, London, W. 1, England. No. 3, December, 1945, 55 pp. Price, five shillings net.

Outlines the transport situation in each of the following countries, with particular emphasis on the car and locomotive situation: Austria, Belgium, Czechoslovakia, France, Germany (French Zone), Germany (United States Zone), Italy, Luxembourg, Netherlands and Poland. Information on water and road transport is also included.

Resistance and Reconstruction [on the] French Railroads. 16 pp. Published by the French National Railroads, 610 Fifth Avenue, New York 20, N. Y. Free.

The first half of this booklet discusses the part that French railwaymen played in the underground struggle to preserve the spirit of France despite Nazi oppression. It describes the various methods of resistance used—passive resistance, liaison, secret travelers, intelligence, and sabotage. Photographs of bridges, viaducts and trains wrecked by the resistance group are included.

The second half of the booklet is devoted to reconstruction of the railroads. The condition of the lines when the Allies took over and the progress made in restoring them are outlined. Four maps indicate the lines repaired and opened to traffic on different dates from September 1, 1944, to May 1, 1945.

Books

Transportation Under Two Masters, by Charles D. Drayton, 210 pp. Published by the National Law Book Company, Washington 5, D. C. Price, $3.00.

Discusses the apparent conflict between the Sherman Antitrust Act, as administered by the Department of Justice, and the Interstate Commerce Act, as administered by the Interstate Commerce Commission, in their application to the transportation agencies of the country. It is designed to meet the propaganda which issues from the Department of Justice directly or indirectly attacking the policies and practices of the railroads of the United States and of the administration of the law by the Interstate Commerce Commission.